

FLORA LONDINENSIS;

O R,

PLATES AND DESCRIPTIONS

OF SUCH

P L A N T S

AS GROW WILD

IN THE

ENVIRONS OF LONDON:

WITH THEIR

PLACES OF GROWTH AND TIMES OF FLOWERING,

THEIR

Several NAMES, according to LINNÆUS, and other Authors :

WITH A PARTICULAR DESCRIPTION OF EACH

P L A N T

IN LATIN AND ENGLISH.

TO WHICH ARE ADDED,

THEIR SEVERAL USES,

IN MEDICINE, AGRICULTURE, RURAL ŒCONOMY, AND OTHER ARTS.

By WILLIAM CURTIS.

VOL. II.

L O N D O N :

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1798.



T O

JOHN COAKLEY LETTSOM, M.D.

THE FRIEND OF HUMANITY,

THE PATRON OF SCIENCE,

THIS SECOND VOLUME

OF THE

FLORA LONDINENSIS,

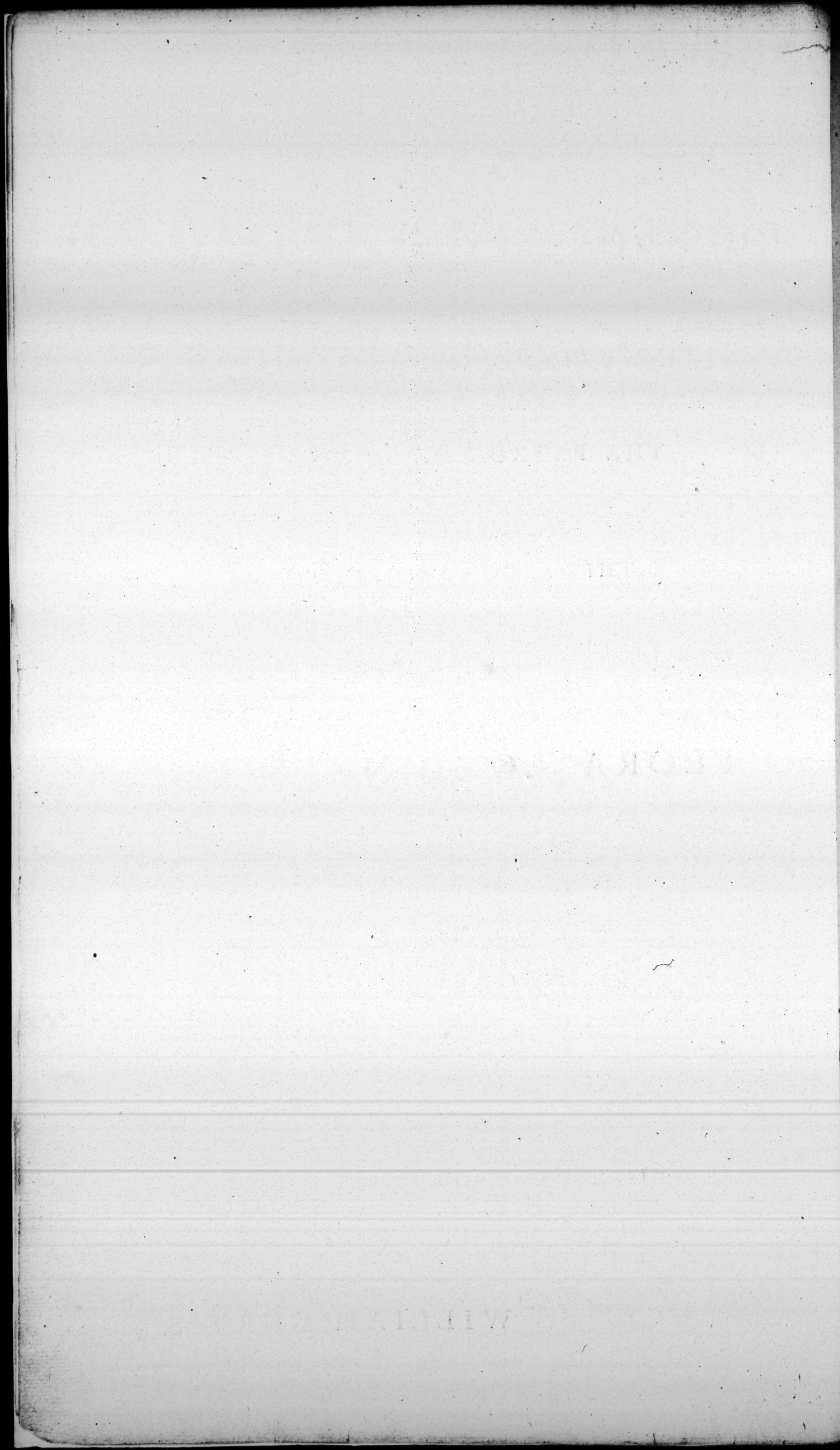
IS MOST RESPECTFULLY

INSCRIBED,

B Y

HIS MUCH OBLIGED FRIEND,

WILLIAM CURTIS.







Teucrium Scorodonia.

TEUCRIUM SCORODONIA. SAGE-LEAVED GERMANDER, or WOOD SAGE.

TEUCRIUM *Lin. Gen. Pl.* DIDYNAMIA GYMnosPERMIA.

Corollæ labium superius (nullum) ultra basin bipartitum, divaricatum ubi
stamina.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

TEUCRIUM *Scorodonia* foliis cordatis ferratis petiolatis, racemis lateralibus secundis, caule erecto. *Lin.*

Syst. Vegetab. p. 440. *Sp. Pl.* 789.

CHAMÆDRYS foliis cordatis productis, spicis longissimis nudis heteromallis. *Haller. Hist. n.* 287.

TEUCRIUM *Scorodonia*. *Scopoli Fl. Carn. n.* 721.

SCORDIUM alterum sive *salvia agrestis* *Bauh. Pin.* 247.

SCORODONIA sive *salvia agrestis*. *Ger. em.* 662.

SCORODONIA *Scordium* alterum quibusdam et *salvia agrestis*. *Park. 111. Raii Syn.* 245. *Hudson, Fl. Angl.* p. 248. *Lightfoot Fl. Scot.* p. 323. *Fl. Dan. t.* 485.

RADIX perennis, lignosa, subrepens.

CAULES plures, seiquipedales, bipedales et ultra, sub-
erecti, tetragoni, duri, purpurei, hirsuti.

FOLIA opposita, petiolata, cordato-oblonga, plerumque
obtusa, sæpe vero acutiuscula, salviae instar
venosa, utrinque hirsutula, obtuse et inæqua-
liter ferrata.

PETIOLI hirsuti.

FLORES straminei, racemosi, secundi, racemis op-
positis, longis, nudis, terminali duplo fere
longiore.

BRACTÆA ovato-acuminata, singulo flori subjecta.

CALYX: PERIANTHIUM monophyllum, tubulosum,
inferne basi gibbosum, labio superiore erecto,
integro, aut obsolete trilobo; inferiore quadri-
dentato, dentibus subæqualibus, *fig. 1.*

COROLLA monopetala, ringens; *Tubus* cylindraceus,
brevis; *Labium* superius ultra basin profunde
bipartitum, distantibus ad latera laciniis; *La-
bium* inferius patens, trifidum, laciniis laterali-
bus figura labii superioris, media maxima, sub-
rotunda, *fig. 2.*

STAMINA: FILAMENTA quatuor, quorum duo lon-
giora, purpurea, pilosa, primo erecta, conni-
ventia, postea reflexa, et disjuncta. ANTHERÆ
flavæ, *fig. 3.*

PISTILLUM: GERMEN quadripartitum. STYLUS fili-
formis. STIGMATA duo, tenuia, *fig. 4.*

SEMINA quatuor, subrotunda, nigricantia, nitida, in
fundo calycis, pilis transversis rigidis fere tecta,
ibique detenta, ad debitam maturitatem, *fig. 5.*

ROOT perennial, woody, and somewhat creeping.

STALKS several, a foot and a half, two feet high, and
more, nearly upright, four-cornered, hard,
purple, and hairy.

LEAVES opposite, standing on foot-stalks, of an oblong
heart-shape, generally obtuse, but often a little
pointed, veiny like sage, a little hairy on each
side, obtusely and unequally ferrated.

LEAF-STALKS hairy.

FLOWERS straw-coloured, growing all one way, on
long, opposite, naked racemi, the terminal
one of which is almost twice as long as the
rest.

FLORAL-LEAF ovate, pointed, and placed under each
flower.

CALYX: a PERIANTHIUM of one leaf, tubular, on the
under side gibbous at the base, the upper lip
upright, entire or faintly three-lobed; the
lower lip furnished with four teeth, which are
nearly equal, *fig. 1.*

COROLLA monopetalous and ringent; *Tube* cylindrical
and short; upper *Lip* deeply divided beyond
the base, segments standing wide; lower *Lip*
spreading, trifid, lateral segments the same
shape as the segments of the upper lip, the
middle one very large and roundish, *fig. 2.*

STAMINA: four FILAMENTS, two of which are longer
than the rest, purple and hairy, at first upright,
and closing together, afterwards turned back,
and separated. ANTHERÆ yellow, *fig. 3.*

PISTILLUM: GERMEN quadripartite. STYLE fili-
form. STIGMATA two, slender, *fig. 4.*

SEEDS four, nearly round, blackish, shining, in the
bottom of the calyx, almost covered with cross
rigid hairs, and kept there till they have ac-
quired a proper degree of ripeness, *fig. 5.*

The Wood-sage, or more properly sage-leaved Germander, delights to grow in woody and hilly situations, among bushes, and under hedges, where the soil is dry and stony; and in such places it is not only common with us, but frequent in most parts of Great Britain.

It flowers in July, August, and September.

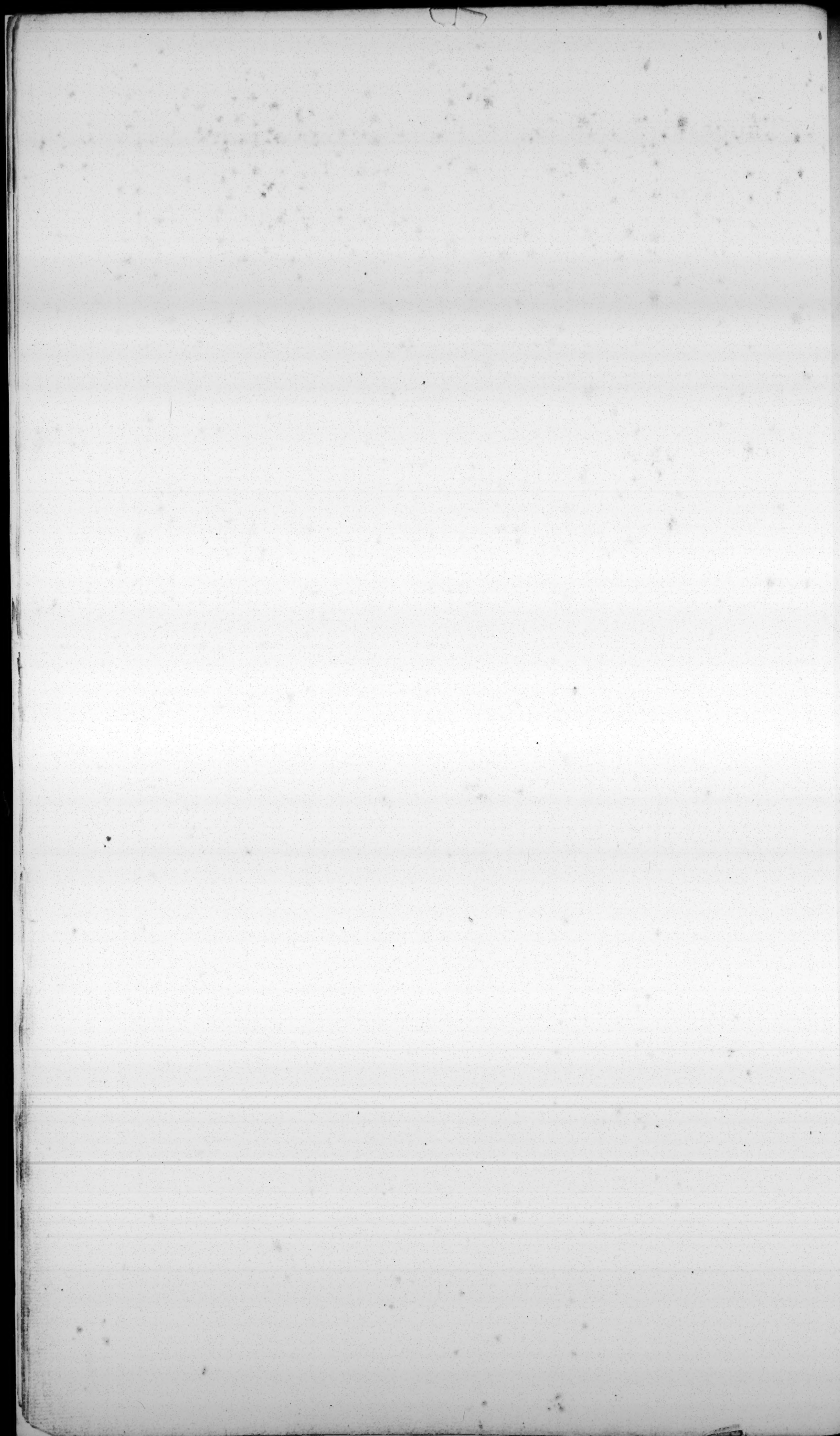
Its leaves much resembles those of Sage, from which circumstance, and not from any botanical or medical affinity, it receives its name.

As a medicinal plant, it has never been highly celebrated. LEWIS omits it in his *Materia Medica*, but retains it in his *Dispensatory*: in smell, taste, and medical virtues, he says, it comes nearer to *Scordium* than Sage. RUTTY relates a case of Vertigo, brought on by the odour which arose from frequently handling the herb in the distillation of it. He ascribes to it the smell of the Hop, in lieu of which, he says, it may be substituted in making beer; and that, when boiled in the wort, the beer sooner becomes clear than when hops are made use of. Its virtues, in this respect, are highly extolled by the Rev. P. LAURENTIS of Bury*. We have only to wish, that experiment may justify the encomiums of our learned and benevolent friend.

"Seeing so much fine ground under costly hops, which, it must be owned, had very large and verdant leaves, I could not but repine at the expence of soil, poles, dung, and labour, bestowed on this plant, especially when there is great reason to suppose, that the *Teucrium Scorodonia* would better answer the purpose. Of this plant I can so far say, that in smell and taste it resembles Hops. The name by which it goes in some authors is *Ambrosia*, a name announcing something immortal and divine; and to this day, *ambrose* is the appellation by which it goes among the common people in the island of Jersey. Here, when Cyder, the common beverage, has failed, I have known the people malt each his barley at home, and, instead of Hops use to very good purpose, the *Ambrose* of their hedges.

"It is my ardent wish, I own, to see justice done to the neglected merits of this ambrosial plant; but should indolence, prejudice, or private interest, obstruct the introduction of it into use, let me at least intreat brewers to honour it with their notice, in preference to any unpalatable and unwholesome substitute they may have occasion to use in lieu of Hops."

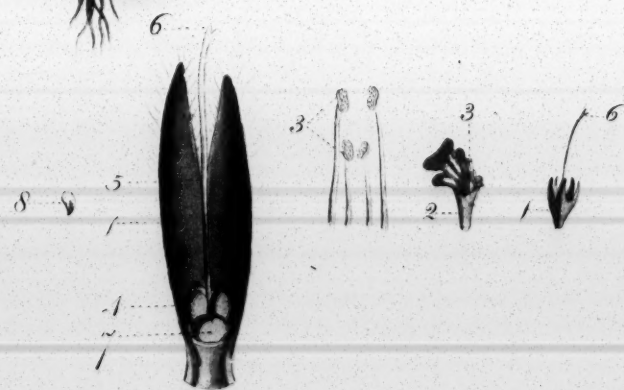
* Vide Tour through Flanders, &c. published in the fourth number of Mr. Younge's *Annals of Agriculture*.







Ujuga reptans



AJUGA REPTANS. COMMON BUGLE.

AJUGA *Linnaei Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

Corollae labium superius minimum. *Stamina* labio superiore longiora.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

AJUGA stolonibus reptantibus. *Linnaei Sp. Pl.* p. 705.

BUGULA foliis ovato dentatis, flagellis reptans. *Haller hist. n.* 282.

BUGULA reptans. *Scopoli Fl. Carniol. n.* 716.

CONSOLIDA media pratensis cœrulea. *Baubin. pin.* 260.

BUGULA vulgaris. *Parkinson* 525.

BUGULA *Gerard emac.* 631. *Raii Syn.* p. 245, Bugle. *Hudson Fl. Angl.* p. 219.

RADIX perennis, fibrosa.

STOLONES plurimæ, repentes, ex superiore parte radicis nascuntur.

CAULIS erectus, semipedalis, quadratus, hirsutus, presertim inter flores, purpureus.

FOLIA opposita, ovata, basi angustiora, connata, dentata, venosa, sæpe purpurea et nitida; Bractææ purpureæ, foliis similes at minores et breviores.

FLORES cœrulei, spicati, verticillati.

CALYX: PERIANTHIUM monophyllum, semiquinquefidum, pilosum, nervosum, cœrulescens, laciniiis subæqualibus, acutis, duobus inferioribus magis approximatis, *fig.* 1.

COROLLA monopetala, ringens, tubus cylindraceus, incurvus, labium superius brevissimum, bidentatum, inferius trifidum, subtus hirsutulum, cœruleum, venis albis pictum, *fig.* 2, 3.

STAMINA: FILAMENTA quatuor alba, recta, labio superiore longiora: ANTHERÆ flavæ, *fig.* 3.

PISTILLUM: GERMEN quadripartitum: STYLUS filiformis, situ et longitudine Stamina: STIGMA bifidum, minimum, *fig.* 4, 5, 6.

NECTARIUM Glandula flava ad basin Germinis unde Calyx subventricosus fit, *fig.* 7.

SEMINA quatuor, ovata in fundo Calycis, *fig.* 8.

ROOT perennial and fibrous.

CREEPERS or shoots, in great numbers spring from the upper part of the root, and creep on the ground.

STALK upright, about six inches high, square, hairy, particularly among the flowers, of a purple colour.

LEAVES opposite, oval, narrowest at bottom and joining together, indented at the edges, veiny, often purple and shining; Floral-leaves like the others, but smaller and shorter.

FLOWERS blue, growing in whirled spikes.

CALYX a PERIANTHIUM of one leaf, half divided into five segments, hairy, nervous, blueish; the segments nearly equal, sharp; the two lowermost approaching nearest together, *fig.* 1.

COROLLA of one PETAL, gaping, the tube cylindrical, bent downward; the upper lip very short, with two teeth; the lower lip trifid, a little hairy underneath, of a blue colour, painted with white veins, *fig.* 2, 3.

STAMINA: four white FILAMENTS, straight, longer than the upper lip of the Corolla: ANTHERÆ yellow, *fig.* 3.

PISTILLUM: GERMEN divided into four parts: STYLE thread-shaped, the length of and in the direction of the Stamina: STIGMA bifid and very small, *fig.* 4, 5, 6.

NECTARY a yellow gland at the base of the Germen which makes the Calyx protuberant, *fig.* 7.

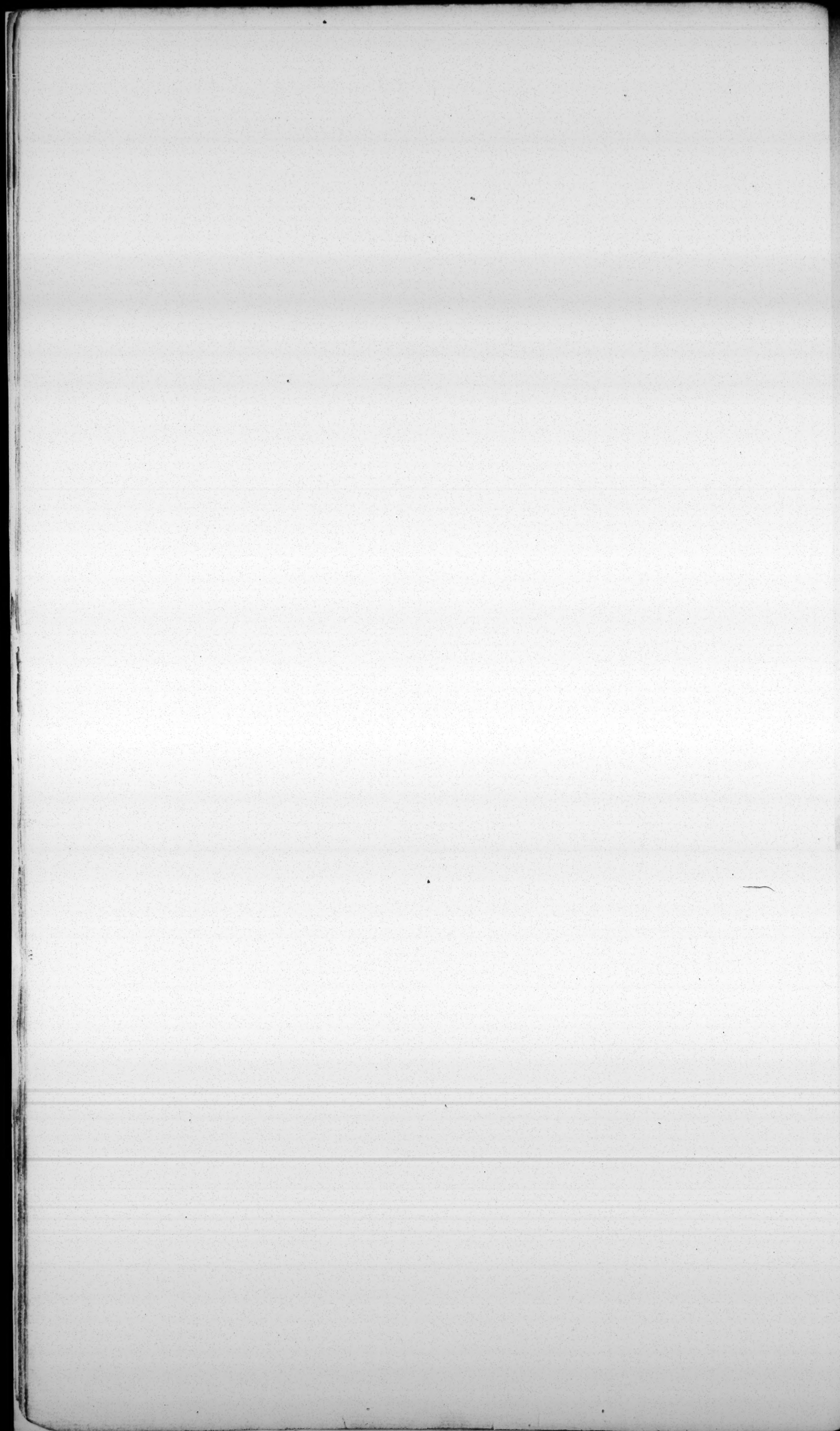
SEEDS four, of an oval shape in the bottom of the Calyx, *fig.* 8.

THE Bugle is another of our English plants which may be recommended as an addition to our gardens. It is fond of a shady and moist situation, and readily propagates itself by means of its creeping shoots.

According to RAY, a variety with red flowers grows plentifully in the second field on the left hand going from *Weston Green* to *Eltham*; and with white flowers it has been found in *Charlton Wood*. The leaves in the Winter are often of a beautiful purple colour. It flowers in all our woods about town from May to July.

The character of this genus is taken from the shortness or rather want of the upper lip of the flower: exclusive of this mark, it is very nearly related to the genus *Glechoma* or *Ground Ivy*. It has a considerable large gland at the base of the germen in the bottom of the calyx, which occasions the latter to protuberant. This gland, however, is not peculiar to this genus, but occurs in most of the plants of the same class, from whence the bees collect a great part of their honey.

It has been considered by the old writers as an excellent vulnerary, applied both inwardly and outwardly, particularly so in *France*, where, according to RAY, it is common for them to say that *those who have Bugle and Sanicle need no Surgeon*.







Verbena officinalis

VERBENA OFFICINALIS. VERVAIN.

VERBENA *Lin. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Raii Gen. 14. SUFFRUTICES, ET HERBÆ VERTICILLATÆ.

VERBENA *officinalis*, tetrandra, spicis filiformibus, paniculatis; foliis multifido-laciniatis, caule solitario. *Lin. Syst. Vegetab. p. 62.*

VERBENA foliis tripartitis rugosis, spicis nudis gracilissimis *Haller. hist. v. 1. p. 96.*

VERBENA communis cæruleo flore. *Baubin, Pin. 269. mas, seu recta et vulgaris. Parkinson 674. communis Gerard 664. Raii Syn. 236. Hudson Fl. Angl. p. 505. Scopoli Fl. Carniol. p. 433.*

RADIX perennis, lignosa, crassitie digiti minimi, raro major, in terram profunde penetrans, fibrosa, lutescens, sapore subamaro.

CAULES plerumque plures ex eadem radice, erecti, pedales aut bipedales, quadrangulares, duo latera excavata, duo subconvexa, sulcata, idque alterne, aculeis brevibus armati, brachiati.

FOLIA opposita, sessilia, venosa, profunde dentata, aut incisa, ad basin angustiora.

FLORES in spicas longas, filiformes, erectas dispositi, BRACTEA ovato-lanceolata, acuminata, calyce breviora suffulti, *fig. 11.*

CALYX: PERIANTHIUM monophyllum, angulatum, quinque-dentatum, *denticulo quinto minimo*, persistens, *fig. 1 2, 3.*

COROLLA monopetala, inæqualis, purpurascens, TUBUS cylindraceus, incurvatus; FAUX villosa, *fig. 5;* LIMBUS quinquefidus, laciniis rotundatis, subæqualibus, *fig. 4.*

STAMINA: FILAMENTA quatuor brevissima, vix conspicua, ANTHERÆ quatuor, quarum duæ breviores reliquis, ejusdem formæ cum Didynamiis *fig. 6.*

PISTILLUM: GERMEN tetragonum, STYLUS filiformis apice paululum incrassatus; STIGMA obtusum *fig. 7.*

PERICARPIUM nullum, Calyx continens Semina.

SEMINA quatuor, oblonga, obtusa, interne planiuscula alba, externe fusca, convexa, *sulcato-reticulata fig. 8, 9, 10.*

ROOT perennial, woody, about the thickness of the little finger, seldom larger, running deep into the earth, fibrous, of a yellowish colour, and slightly bitter taste.

STALKS: in general several arise from the same root, upright, from one to two feet high, four square, two sides hollowed out, two roundish and grooved, and that alternately, armed with short prickles, the branches alternately opposite.

LEAVES opposite, sessile, veiny, deeply indented or cut in, narrowest at bottom.

FLOWERS disposed in long filiform erect spikes, supported by an oval pointed FLORAL-LEAF shorter than the Calyx, *fig. 11.*

CALYX: a PERIANTHIUM of one leaf, quinque-dentate, *the fifth tooth exceedingly minute*, continuing, *fig. 1, 2, 3.*

COROLLA monopetalous, unequal, purplish, the TUBE cylindrical and crooked, the MOUTH villous, *fig. 5.* the LIMB divided into five segments, which are round and nearly equal, *fig. 4.*

STAMINA: four FILAMENTS very short and scarce conspicuous, four ANTHERÆ two of which are above the others, of the same form with those of the Class Didynamia in general, *fig. 6.*

PISTILLUM: the GERMEN four square, the STYLE filiform, growing thicker towards the extremity, the STIGMA obtuse, *fig. 7.*

PERICARPIUM wanting, the Calyx containing the Seeds.

SEEDS four, oblong, obtuse, on the inside flatish and white, on the outside brown, convex, *grooved and reticulated, fig. 8, 9, 10.*

The Vervain may be considered as a kind of domestic plant, not confined to any particular soil, but growing by the road sides, pretty universally at the entrance into Towns and Villages.

It produceth its blossoms in the months of August and September.

There is only one Species of this Genus which grows wild in this country, but in different parts of the world the species are numerous, and what is remarkable, some have four and others but two Stamina, hence LINNÆUS ranks them among his *Diandrous* plants, making a division of them into such as have *flores Diandri* and *flores Tetrandri*. As our species hath four Stamina, two of which are above the other two, as the Style proceeds from the center of the four united Germina, and as four naked seeds follow, which are contained within the Calyx, we have placed it with SCOPOLI among the *Didynamia Gymnospermia* plants, a Class to which the botanic Student, who had been instructed in the Linnæan principles of Botany, would readily have been induced to refer it.

The seed of this plant has something remarkably curious in its appearance, on the inside it is of a snowy white, externally brown, and beautifully reticulated.

The Plant which the Romans called *Verbena*, appears to have been used on particular occasions at a very early period, as a token of mutual confidence betwixt them and their Enemies. It was also constantly applied to the purposes of Superstition and Enchantment, in making wreaths and brooms for their Altars, and chaplets for their Priests. It is probable from *Pliny's* account, that the plant which we now describe was the same with that of the Antients, but in a larger sense, they called the Laurel and Myrtle or whatever was bound round the Altar *Verbena*. The dry harsh nature of this herb, agrees but ill with the *Pinguis Verbena* of Virgil, perhaps it acquired that title from being anointed with the fat of the sacrifice.

In later times Vervain has been accounted a sovereign remedy in a multitude of disorders; SCHRODER recommends it in upwards of thirty different complaints, on which Mr. Ray judiciously observes "*Mirum tot viribus pollere plantam nulla insigni qualitate sensibili dotatam*"! strange that a plant which inherits no remarkably sensible quality should possess so many virtues!

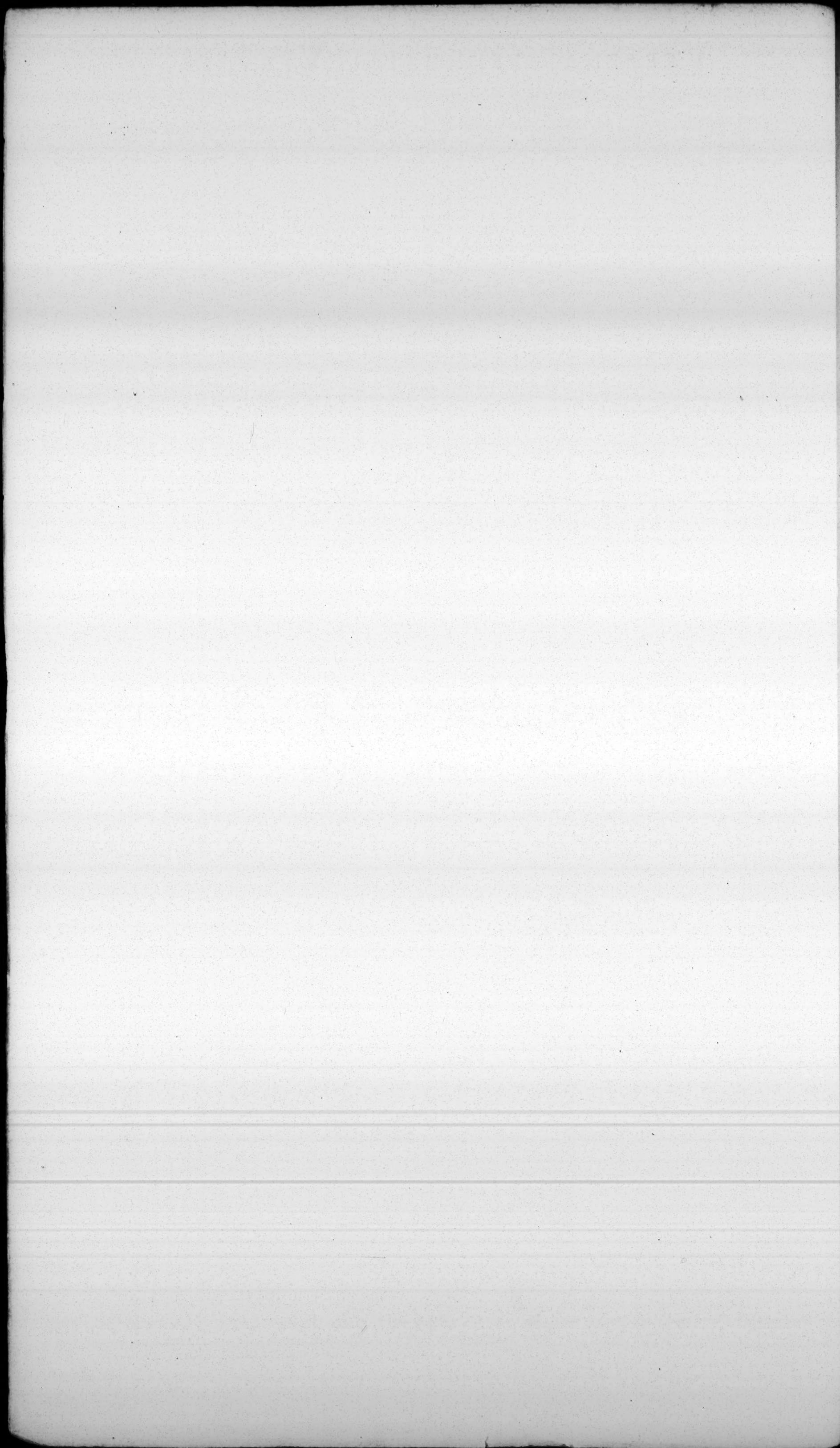
Mr. Morley a late writer on the Vervain, considers it as extremely useful in the cure of the Schrophula or Kings evil, and in his Essay on the nature and cure of Schrophulous diseases, has given us a figure of the plant with particular directions for its use, which consists in hanging the root (which is to be of a larger or smaller size according to the age of his Patients) tied with a yard of *white* sattin ribband round the neck, there to be worn till they recover.

Those who know any thing of the effects of Medicines on the human body, will not easily be persuaded that such a kind of application can produce any very wonderful effect in this case, even making the greatest allowance for the powers of the imagination; and Mr. Morley as if sensible of the inefficacy of his Vervain Amulet, calls to his assistance a number of powerful medicines, among others we find Mercury, Antimony, Hemlock, Jalap, &c; and by a repeated and oftentimes a long continued application of Baths, Cataplasms, Ointments, Poultices, Plaisters, &c. and the exhibition of gentle purges and alterative medicines, some have been relieved and others cured; but can any one hence infer with any degree of reason that the Vervain Root had any share in the cure? certainly no; out of all Mr. Morley's cases there is not one which proves it, and the virtues of this plant still remain to be ascertained by rational experiments.

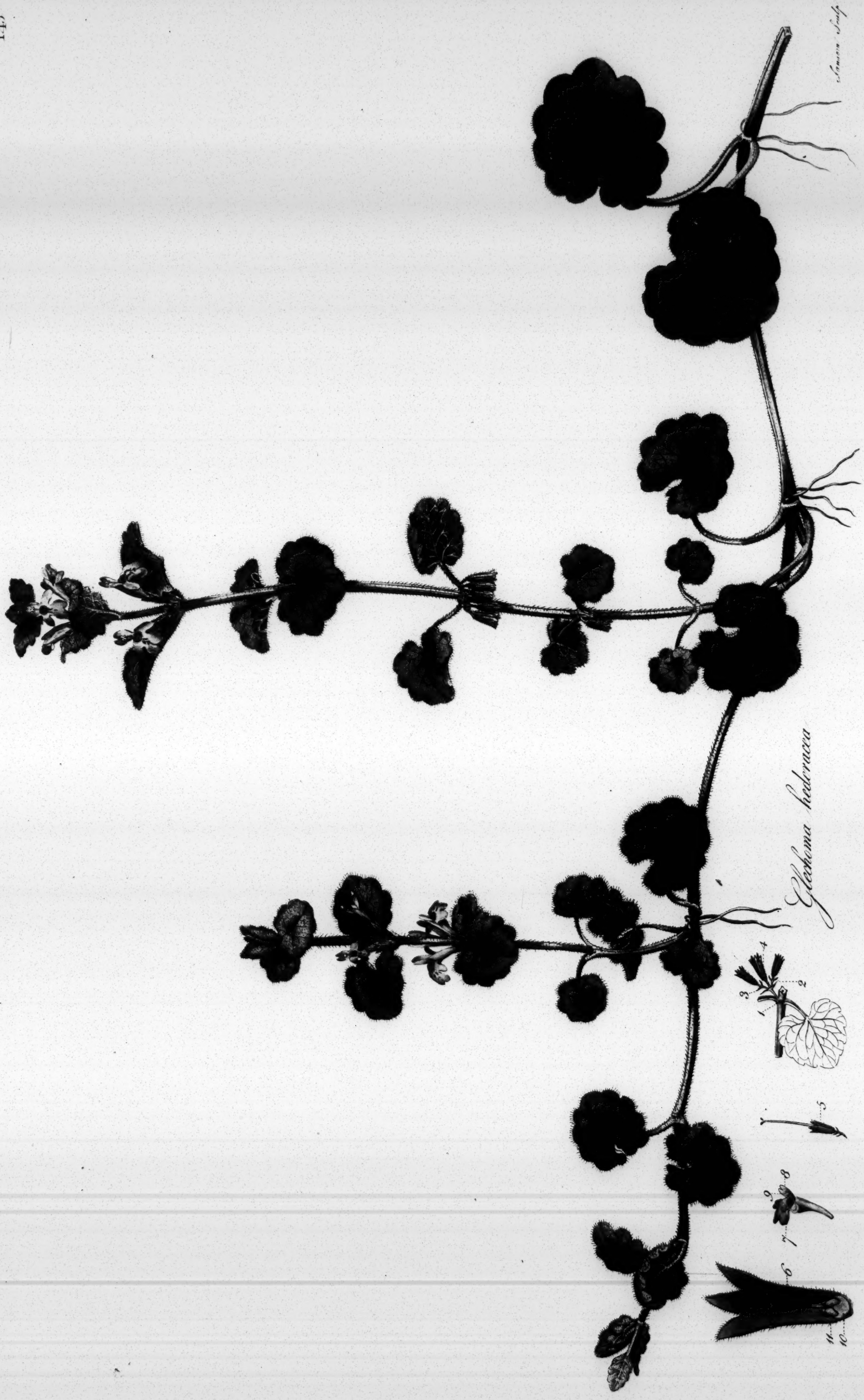
It should be observed that the Schrophula is a disease which at certain periods of life and at certain seasons of the year, is liable to be much worse than at others, and frequently exceeding bad cases of this kind have been cured by the most simple applications.

Many people have no doubt applied to Mr. Morley from a supposition that his motives were perfectly disinterested, and it must be confessed that there are Empirics much more mercenary and infinitely more dangerous; yet it does not appear but Mr. Morley acts nearly on the same principle with other Practitioners in Physick, with this difference indeed, that they receive their fees in specie, he takes his in kind.

That we may not be thought to act disingenuously by Mr. Morley we shall quote his own words—"Many many Guineas have been offered me but I never take any money. Sometimes indeed genteel People have sent me small acknowledgements of Tea, Wine, Venison, &c. Generous ones, small pieces of Plate or other little Presents. Even neighbouring Farmers a Goose or Turkey, &c. by way of Thanks.







Glehnia hederacea

GLECHOMA HEDERACEA. GROUND-IVY.

GLECHOMA *Linnaei. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Antherarum singulum par in formam crucis connivens. *Calyx* 5-fidus.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

GLECHOMA *hederacea. Lin. Syst. Vegetab. p. 445. foliis reniformibus crenatis. Spec. Pl. p. 807. Fl. Suecic. p. 202.*

CHAMÆCLEMA caule procumbente radicato, foliis reniformibus rotunde crenatis. *Haller hist. n. 245.*

CALAMINTHA *hederacea. Scopoli. Fl. Carniol. p. 423.*

CALAMINTHA humilior, folio rotundiore. *Tourn. Inst. R. H. 194.*

HEDERA terrestris. *Baubin. Pin. 306.*

HEDERA terrestris. *Gerard. emac. 856.*

HEDERA terrestris vulgaris. *Parkinson. 676. Raii Syn. p. 296, Ground-ivy, Gill-go-by-ground, Alehoof, or Tunhoof. Hudson. Fl. Angl. p. 224.*

RADIX perennis, fibrosa.

CAULES seu potius Flagellæ plures, tetragoni, humi repentes et late se diffundentes, unde exsurgunt caules floriferi palmares aut semipedales, quadrati, hirsuti, (pilis deorsum versis,) erecti, infirmi, geniculati, geniculis pilosis.

FOLIA opposita, longe petiolata, subreniformia, crenata, venosa, petiolis superne sulcatis.

FLORES purpurei, verticillatim circa caulem dispositi.

PEDUNCULI triflori.

INVOLUCRUM universale et partiale, fig. 2, 3, diphyllum, setaceum, sed in flosculo intermedio, fig. 4, partiale desideratur.

CALYX: PERIANTHIUM monophyllum, tubulosum, quinquedentatum, dentibus subæqualibus, acuminatis, hirsutum, striatum, fig. 5.

COROLLA monopetala, tubulosa, ringens, tubus tenuis, superne compressus, labium superius erectum obtusum, semibifidum, inferius patens, majus, trifidum, laciniâ intermediâ majori, emarginatâ, ad basin hirsutâ et maculis saturatius purpureis notata, fig. 7, 8.

STAMINA: FILAMENTA quatuor sub labio superiore, quorum duo breviora: ANTHERÆ conniventes in formam crucis, albæ, fig. 9.

PISTILLUM: GERMEN quadrifidum, fig. 11, glandulâ cinctum, fig. 10. STYLUS filiformis, corollâ longior: STIGMA bifidum, acutum.

PERICARPIUM nullum, calyx in sinu fovens
SEMINA quatuor, ovata.

ROOT perennial and fibrous.

STALKS, or rather Shoots, numerous, square, creeping on the ground, and spreading wide, from whence arise the flowering stalks, which are from four to six inches high, square, hirsute, (the hairs turning downward,) upright, weak, jointed, the joints hairy.

LEAVES opposite, standing on long foot-stalks, somewhat kidney-shaped, notched, veiny, the leaf-stalks grooved on the upper side.

FLOWERS of a purple colour, disposed in whirls around the stalk.

FLOWER-STALKS supporting three flowers.

INVOLUCRUM both universal and partial, fig. 2, 3, each composed of two fine pointed leaves, which however are wanting in the middle flower, fig. 4.

CALYX: a PERIANTHIUM of one leaf, tubular, with five teeth, (which are nearly equal, and long pointed,) hairy, and finely grooved, fig. 5.

COROLLA monopetalous, tubular, ringent, the tube slender, and compressed above; the upper lip upright, obtuse, divided half way through; the lower lip larger, spreading, divided into three segments, of which the middle one is largest, with a slight notch, hairy at its base, and marked with purple spots of a deeper colour, fig. 7, 8.

STAMINA: four FILAMENTS placed under the upper lip, two short and two long: ANTHERÆ white, forming a cross, fig. 9.

PISTILLUM: GERMEN divided into four, fig. 11, surrounded by a gland, fig. 10: STYLE thread-shaped, larger than the corolla: STIGMA bifid, and pointed.

SEED-VESSEL none, the calyx in its cavity containing four

SEEDS of an oval shape.

GROUND-IVY has an aromatic, though not very agreeable smell; and a quick, bitterish, warm taste. This herb is an useful corroborant, aperient, and detergent; and hence stands recommended against laxity, debility, and obstructions of the viscera. Some have had a great opinion of it for cleansing and healing ulcers of the internal parts, even of the lungs; and for purifying of the blood. It is customary to infuse the dried leaves in malt liquors; a practice not to be commended, though it readily communicates its virtue, and likewise helps to fine them down: scarce any other herb has this effect more remarkably than *Ground-ivy. Lewis's Disp. p. 150.*

From the latter use, the plant has obtained the names of *Alehoof* and *Tunhoof. Raii hist. p. 567.*

The juice of the plant drawn up the nostrils, not only mitigates, but totally removes violent and inveterate headaches. *Ibid.*

Notwithstanding the credit which this plant has obtained with former writers on the *Materia Medica*, the modern practice holds it in little estimation.

Red hairy tumours are frequently found on it, which are occasioned by the *Cynips Glechomæ, Linnaei Faun. Suecic. n. 1520.*

It slowly expels those plants which grow next it, and hence impoverishes pastures. *Lin. Fl. Suecic. p. 202.*

Cattle are not fond of it, and horses are said to be hurt by feeding on it: to make amends for this however, the juice of the herb, mixed with a little wine, and applied morning and evening, is said to take away the film on horses eyes. *Lin. Fl. Suecic. ex Loes. 123.*

The plant is well known to grow under hedges, in woods, on banks, and sometimes in dry pastures. It varies in size according to its situation; the flowers also vary in the degrees of purple; and make their appearance in April, May, and June.







Lamium album

LAMIUM ALBUM. WHITE DEAD-NETTLE.

LAMIUM *Linnaei Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Corollæ lab. sup. integrum, fornicatum; lab. inf. 2-lobum, faux utrinque margine dentata.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

LAMIUM *album* foliis cordatis, acuminatis, ferratis, petiolatis, verticillis vigintifloris. *Lin. Syst. Vegetab. p. 446. Sp. pl. p. 446. Flor. Suecic. p. 203.*

LAMIUM foliis cordatis, acutis, ferratis, verticillis multifloris. *Haller. hist. helv. n. 271.*

LAMIUM *album. Scopoli Fl. Carniol. n. 700.*

LAMIUM *album* non foetens folio oblongo. *Baubin. Pin. 231.*

LAMIUM *album. Gerard emac. 782.*

LAMIUM vulgare album five Archangelicum flore albo. *Parkinson. 604.*

Raii Syn. 240. White Archangel or Dead-Nettle.

Hudson. Fl. Angl. ed. 1. p. 225. ed. 2. 255.

Lightfoot Fl. Scot. p. 308.

RADIX perennis, alba, geniculata, repens.

CAULES plurimi, pedales, suberecti, simplices, basi tenuiores, quadrati, fistulosi, hirsutuli, in apicis ex rufo-purpureascentes, furculi debiles, adscendentes.

FOLIA petiolata, cordata, acuta, deflexa, inæqualiter ferrata, apicibus denticulorum rufis introrsum versis, venosa, superne et inferne hirsutula, summis ut caules sæpe coloratis, circa radicem folioli etiam occurrunt subrotunda, crenulata.

FLORES verticillati, majusculi, albi; haud infrequenter etiam rubore quodam tincti; verticilli decem quindecim aut vigintiflori.

CALYX: PERIANTHIUM monophyllum, tubulosum, sessile, nervosum, quinquedentatum, dentibus setaceis, hirsutum, persistens, inferne ad basin maculis purpureis notatum et bractæa brevi lineari suffultum, *fig. 1, 2.*

COROLLA monopetala, ringens; TUBUS longitudine fere labii superioris, curvatus, antice inferne prominulus, superne intropressus, faux inflata, margine utraque denticulis duobus plerumque notata, labium superius fornicatum, pilosum, emarginatum, aliquando etiam dentatum, lineis duabus elevatis ad verticem coadunatis notatum, labium inferius bifidum, reflexum, crenulatum, ad basin maculatum, *fig. 3, 4.*

STAMINA: FILAMENTA quatuor, filiformia, alba, apicibus villosis, paululum incrassatis et incurvatis: ANTHERÆ purpureæ, hirsutæ; POLLEN flavum, *fig. 5.*

PISTILLUM: GERMEN quadrifidum, *fig. 6.* glandulâ cinctum, *fig. 7:* STYLUS filiformis longitudine et situ Stamina: STIGMA bifidum acutum, *fig. 8, 9.*

SEMINA quatuor, in fundo calycis, trigona, appendiculata, *fig. 10,*

ROOT perennial, white, jointed, and creeping.

STALKS numerous, a foot high, nearly upright, unbranched, slender at bottom, square, hollow, and slightly hairy; in exposed situations, of a reddish purple colour: the young shoots weak and rising upward.

LEAVES standing on foot-stalks, heart-shaped, pointed, hanging down, unequally ferrated; the tips of the little teeth red and turned inward, veiny, above and beneath somewhat hirsute; the uppermost leaves, as well as the stalks, frequently coloured; the leaves about the root are often small, round, and crenated.

FLOWERS growing in whirls, largish, of a yellowish white colour, not uncommonly tinged with red; the whirls having ten, fifteen, or twenty flowers in them.

CALYX: a PERIANTHIUM of one leaf, tubular, sessile, rib'd, hirsute and continuing, having five teeth, which are setaceous; on its lower side, at bottom, marked with purple spots, and supported by a short linear bractæal leaf, *fig. 1, 2.*

COROLLA monopetalous and ringent; the TUBE nearly the length of the upper lip, and crooked, anteriorly prominent below, and pressed in above; the mouth inflated, and marked generally on each side with two little teeth; the upper lip arched, hairy, with a slight notch, and sometimes indented, distinguished by two elevated lines, which unite at the crown; the inferior lip bifid, turned back, slightly notched, and spotted at bottom, *fig. 3, 4.*

STAMINA: four FILAMENTS, filiform, white, the tips villous, a little thickened, and bent inward: ANTHERÆ purple and hairy; POLLEN yellow, *fig. 5.*

PISTILLUM: GERMEN divided into four, *fig. 6.* surrounded by a gland, *fig. 7.* STYLE filiform, of the same length and situation as the Stamina: STIGMA bifid and acute, *fig. 8, 9.*

SEEDS four, in the bottom of the Calyx, three cornered, with a little appendage at bottom, *fig. 10.*

THE *White Dead-Nettle* or *Archangel*, is one of our earliest spring plants, ornamenting our banks in April and May; and is much resorted to by Bees for the sake of its honey, which is secreted into the bottom of the tube in considerable plenty, by a little gland surrounding the base of the germen.

The flowers have been particularly celebrated in uterine fluors, and other female weaknesses; as also in disorders of the lungs; but they appear to be of very weak virtue: *Lewis's Disp. part. 2. p. 163.*

The bruised leaves are recommended to discuss tumours, even of the schrophulous kind; *Rutty's Mat. Med. p. 271;* but very little dependance is to be placed on such recommendations. There is scarce a plant but what (if we may believe the antients) possesses some wonderfully healing power of this kind.

Like the other *Lamiums*, it has a disagreeable smell when bruised.

Boys make whistles of the stalks.

In the south of France, it is said to occur with a purple flower. I have frequently found it slightly tinged with red.

The *Phalæna Chrysitis*, *Burnished Brass Moth*, *Lin. Faun. Suecic. p. 311. Albin. Insect. tab. 71,* feeds on it: and in Sweden the leaves are eaten in the spring as a pot-herb; *Lin. Flor. Suecica.*

Having a strong creeping perennial root, and being a plant which cattle dislike, it should be extirpated by the Farmer.





Lamium purpureum.

LAMIUM PURPUREUM. RED LAMIUM OR DEAD NETTLE.

LAMIUM *Linnaei Gen. Pl. DIDYNAMIA GYMNOSPERMIA. Corollae labium superius integrum, fornicatum, labium inferius bilobum; faux utrinque margine dentata. Lin. Descrip. Gen. abbrev.*

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

LAMIUM *purpureum* foliis cordatis obtusis petiolatis. *Linnaei Syst. Vegetab. p. 446. Sp. Pl. 809. Fl. Suecic. 203.*

LAMIUM foliis cordatis, obtusis, in summo ramo congestis. *Haller. hist. v. 1. 118.*

LAMIUM *purpureum. Scopoli Fl. Carniol. p. 407. n. 701.*

LAMIUM *purpureum fatidum, folio subrotundo, five Galeopsis Dioscoridis. Baubin. pin. 230. Lamium rubrum. Gerard emac. 703. Parkinson. 604. Raii. Synopsis Small Dead Nettle or red Archangel 240. Hudson. Fl. Angl. 225. Oeder. Fl. Dan. icon. 523.*

RADIX annua, fibrosa.

CAULES plures, ad basin debiles, et ramosi, prope summitatem fere nudi, et saepe colorati, semipedales, quadrangulares, fistulosi, scabiusculi.

FOLIA opposita, venosa, hirsutula, inferiora subrotundo-cordata, crenata, longe petiolata: superiora ovato-cordata, obtuse serrata, petiolis brevibus infidentia, alterne opposita, reflexa, dense et imbricatim congesta, et rubedine tincta.

FLORES purpurei, in summis caulibus verticillatim densius stipati: Verticilli multiflori.

CALYX: PERIANTHIUM monophyllum, tubulatum, superne patentius, quinque-dentatum, substriatum, hirsutulum, dentibus subaequalibus, acuminatis. *fig. 1.*

COROLLA monopetala, ringens, pallide purpurea, *fig. 2*; TUBUS brevis, cylindraceus, *fig. 6*; FAUX inflata, margine utroque bidentata, *fig. 4*; denticulo superiori spinæ simili, inferiore obtusiore, macula notata; labium superius, *fig. 3*, ovatum, concavum, villosulum, integrum, labium inferius bilobum, maculatum, lobis patentibus. *fig. 5.*

STAMINA: FILAMENTA quatuor, subulata, alba, sub labio superiori tecta, quorum duo longiora, *fig. 7*; ANTHERÆ oblongæ, barbatae, polline croceo repletæ. *fig. 8.*

PISTILLUM: GERMEN quadrifidum; STYLUS filiformis, longitudine et situ staminum; STIGMA bifidum, acutum, *fig. 9, 10, 11.*

SEMINA 4 in fundo calycis, pallida, triangularia, apice truncata, marginata, *fig. 12.*

ROOT annual and fibrous.

STALKS several, at bottom weak and branched, near the top almost naked, and frequently coloured, six inches or more in height, quadrangular, hollow, and slightly rough.

LEAVES opposite, veiny, slightly hairy, the lower ones of a roundish-heart shaped form, notched, and placed on footstalks, the uppermost ones oval-heart-shaped, obtusely serrated, with short footstalks, alternately opposite, growing thickly together, bent back and laying one over another, of a reddish colour.

FLOWERS purple, growing thickly together on the tops of the stalks in whirls; many flowers in each whirl.

CALYX: a PERIANTHIUM of one leaf, tubular, at top spreading, with five teeth, somewhat striated and hairy, the teeth nearly equal and long pointed. *fig. 1.*

COROLLA monopetalous, gaping, of a pale purple colour, *fig. 2*; the TUBE short and cylindrical, *fig. 6*; the ENTRANCE OF THE TUBE inflated, the margin on each side furnished with two teeth, *fig. 4*; the uppermost pointed like a thorn, the lowermost blunter with a spot on it; the upper lip *fig. 3*; oval, hollow, slightly villous, entire, the under lip divided into two lobes, spreading a little from one another, and spotted, *fig. 5.*

STAMINA: four FILAMENTS, tapering and white, hid under the upper lip, two of which are longer than the rest *fig. 7*; the ANTHERÆ oblong, bearded, and full of a yellow pollen *fig. 8.*

PISTILLUM: GERMEN quadrifid; STYLUS filiform, the length of the Stamina; STIGMA bifid and pointed *fig. 9, 10, 11.*

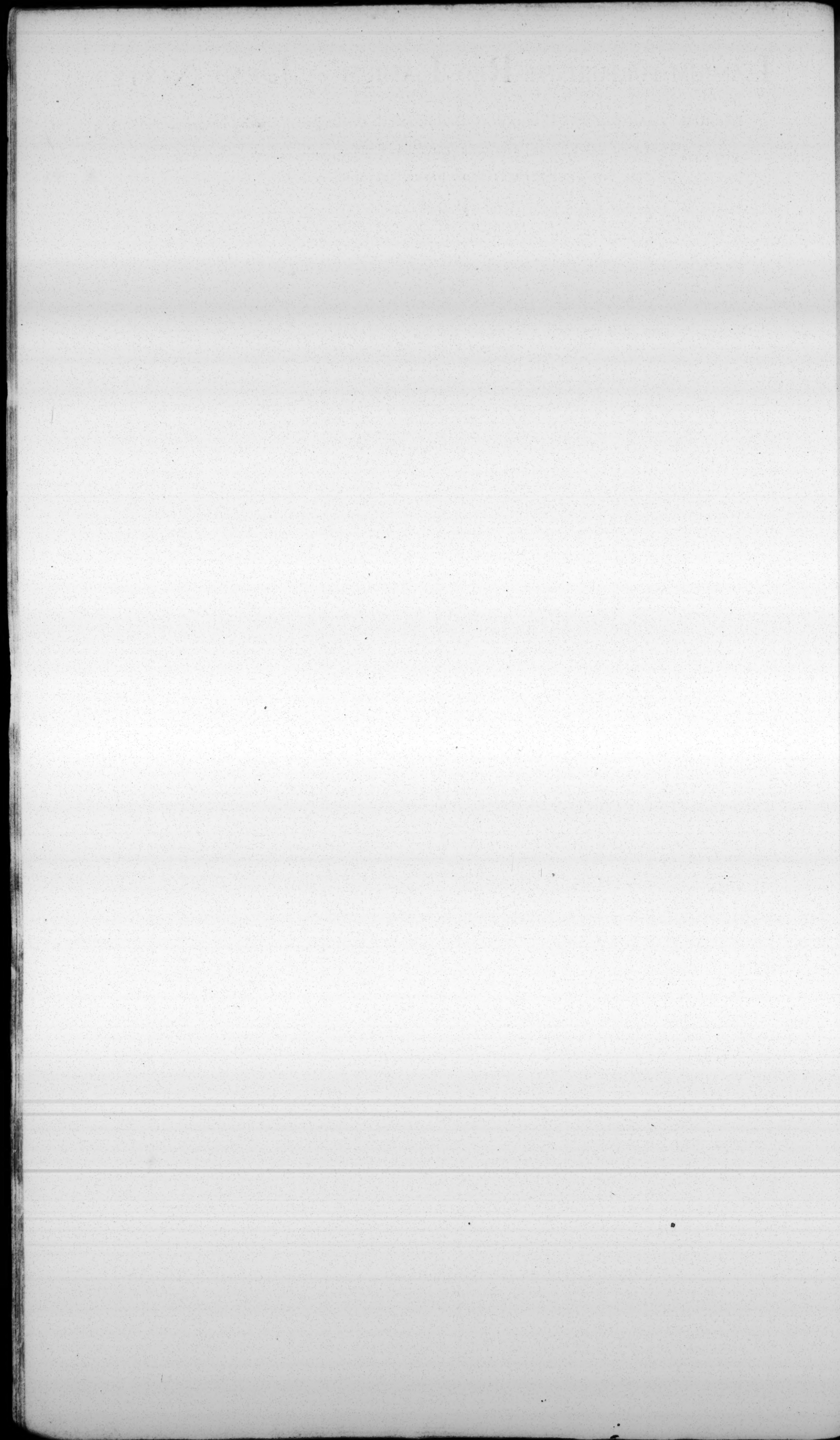
SEEDS 4 in the bottom of the Calyx, of a pale brown, triangular, cut off as it were at top, with a margin round them, *fig. 12.*

Although this plant may perhaps with propriety be considered as a Weed in Gardens, yet the bright colour of its tops and flowers, joined to its early appearance, contributes not a little to ornament our banks in the Spring, when few other plants appear in blossom.

The Flowers are most commonly of a bright red colour, sometimes white, and are much resorted to by Bees of various kinds.

The Leaves and Flowers are those parts of the plant, which are used in Medicine, although in the present practice they are scarce regarded.

According to LINNÆUS it is boiled in *Upland*, a Province of *Sweden*, as a pot herb. A Variety of this plant occurs not unfrequently about *Town*, which has its leaves more deeply indented. RAY calls it *Lamium rubrum minus, foliis profunde incis.* I have found it growing on a bank on the right hand side of the way between *Pimlico* and *Chelfea*.







Lamium amplexicaule

Sanson sculp

LAMIUM AMPLEXICAULE. HENBIT DEAD - NETTLE.

LAMIUM *Linnaei Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Corollæ lab. super. integrum, fornicatum; lab. inf. 2-lobum; faux utrinque margine dentata.

Raii Syn. Gen. 14. Suffrutices et Herbæ verticillatæ.

LAMIUM *amplexicaule* foliis floralibus sessilibus amplexicaulibus obtusis. *Linnaei Syst. Vegetab. p. 446. Spec. Plant. p. 203. Flor. Suecic. p. 809.*

LAMIUM foliis radicalibus petiolatis, lobatis, superioribus caulem ambientibus, rotunde incis. *Haller hist. n. 273.*

LAMIUM *amplexicaule. Scopoli Fl. Carniol. n. 702.*

LAMIUM folio caulem ambiente majus et minus. *Baubin pin. 231.*

ALSINE hederula altera. *Gerard. emac. 616.*

ALSINE hederula folio major. *Parkinson 762.*

Raii Syn. p. 240. Great Henbit.

Hudson. Fl. Angl. p. 225.

Lightfoot Fl. Scot. p. 309.

RADIX annua, fibrosa, albida.

CAULES ex una radice plures, dodrantes, aut pedales, suberecti, quadrati, læves, ramis paucis oppositis.

FOLIA opposita, inferiora petiolata, subrotundo cordata, inciso-crenata, venosa, hirsutula, petiolis superne concavis foliis longioribus, superiora sessilia, semiorbiculata, incisa, laciniis obtusiusculis.

FLORES verticillati ad 15, duorum generum, manci scilicet et perfecti, manci breves, calycibus paulo longiores, apicibus ruberrimis hirsutis clausis, *fig. 1, 2*; perfecti calyce quadruplo longiores, purpurei, e summitatibus caulium ut plurimum erumpentes, *fig. 3.*

CALYX *in perfectis*, PERIANTHIUM quinquedentatum, tubulosum, vix manifeste striatum, dentibus æqualibus, acuminatis, hirsutis, *fig. 4.*

COROLLA: TUBUS prælongus, cylindraceus, suberectus, faux inflata, margine reflexâ maculatâ, denticulis duobus notata, collum prominulum, labium superius fornicatum, hirsutum, subintegrum; labium inferius deflexum, bilobum, maculis purpureis notatum, *fig. 5, 6, 7, 8.*

STAMINA: FILAMENTA quatuor, quorum duo longiora, alba, sub labio superiore: ANTHERÆ pilosæ, polline croceo refertæ, *fig. 9.*

PISTILLUM: GERMEN quadrifidum: STYLUS filiformis, longitudine et situ staminum: STIGMA bifidum, acutum, *fig. 10.*

SEMINA quatuor in fundo calycis, appendiculata, punctis albis notata, *fig. 11, 12.*

ROOT annual, fibrous, and of a whitish colour.

STALKS, several from one root, nine inches or a foot high, nearly upright, square, smooth, with a few opposite branches.

LEAVES opposite, the lower ones standing on foot-stalks, of a roundish heart-shaped figure, deeply crenated, veiny, slightly hairy; the foot-stalks grooved on the upper part, and longer than the leaves; the upper ones semi-orbicular, cut in at the edges, the segments somewhat blunt.

FLOWERS growing in whirls to 15, of two kinds, perfect and imperfect; the imperfect ones short, a little longer than the Calyx, the tips very red, hairy, and closed, *fig. 1, 2*; the perfect ones four times the length of the Calyx, of a bright purple colour, and generally breaking out from the tops of the stalks, *fig. 3.*

CALYX *in the perfect ones*, a PERIANTHIUM with five teeth, tubular, scarce manifestly striated; the teeth equal, acuminated, and hirsute, *fig. 4.*

COROLLA: the TUBE very long, cylindrical, nearly upright, the mouth inflated, the edge turned back, spotted, and marked with two little teeth; the neck a little prominent; the upper lip arched, hirsute, and nearly entire; the lower lip turning down, having two lobes, which are spotted with purple, *fig. 5, 6, 7, 8.*

STAMINA: four FILAMENTS, two long and two short, of a white colour, placed under the upper lip: ANTHERÆ hairy, filled with a saffron-coloured pollen, *fig. 9.*

PISTILLUM: GERMEN divided into four parts: STYLE filiform, of the same length and situation with the Stamina: STIGMA bifid and acute, *fig. 10.*

SEEDS four, in the bottom of the Calyx, with a little appendage to each, surface covered with white spots, *fig. 11, 12.*

IN the flowering of this plant, there are some circumstances well deserving of attention.

Two kinds of blossoms are observable on it; the one a very small short one, like the rudiments of a flower, a little longer than the Calyx, with the mouth closed, very hairy, and of a bright red colour; the other a flower like that of the *Lamium purpureum*, but much longer.

The first of these blossoms, which so far as respects the Corolla, are evidently imperfect, appear very early in the Spring, in February and March: the long and perfect blossoms do not make their appearance till May or June, when they are observable on the tops of the stalks: and if the progress of the flowers be watched, the Corolla will be found to be gradually enlarged in different blossoms, till the weather being sufficiently warm, they come forth fully formed.

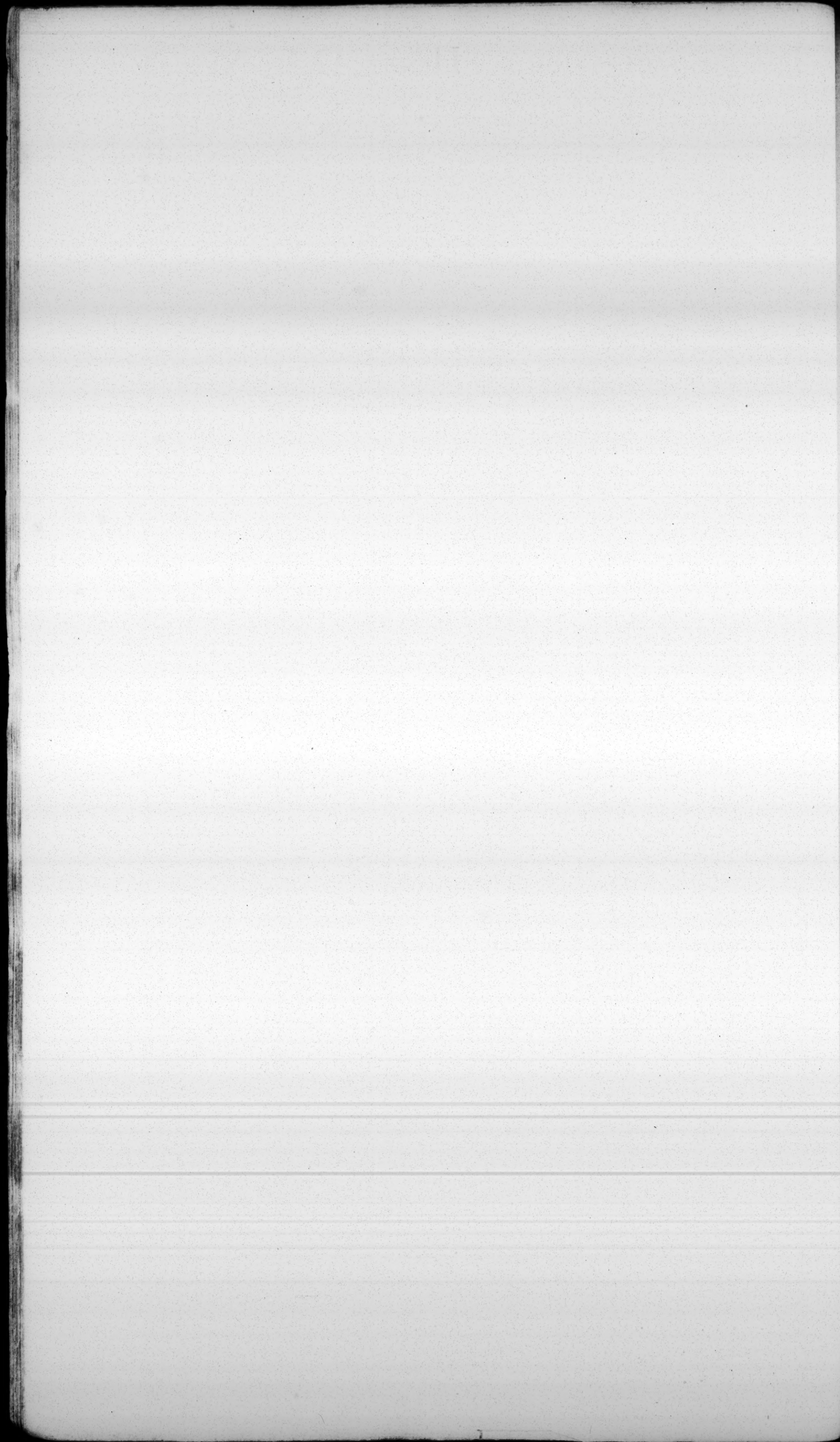
Those who have attended to the changes of Insects, must have observed, that if a Caterpillar has, previous to its changing into the chrysalis or pupa state, been deprived of its proper quantity of food, the Fly has come forth perfect in all its parts except the wings, which are crumpled up, and never expand; so this plant, for want of a sufficient degree of warmth, is not able to push forth an expanded Corolla; yet being perfect in every other part, the species suffers no diminution.

I had for several years imagined, that the imperfect flowers were the rudiments of the long blossoms; but on a more minute enquiry, I found that they never grew any longer, but decayed. I was then ready to suppose that they were barren flowers; but on dissecting them, I found that each had both Stamina and a Pistillum.

Since the above observations were made, I find, on looking into the *Flora Suecica*, that LINNÆUS takes notice of its scarce ever producing perfect blossoms in Sweden.

Here then is a process somewhat similar to what we observe in the Violet and some other plants, where perfect seed is produced, although the Corolla be not perfectly formed.

It grows with us frequently on walls; and in the greatest abundance in the fields and gardens about Battersea and Lambeth, where the soil is light.





GALEOPSIS VERSICOLOR. PARTICOLOURED GALEOPSIS.

GALEOPSIS Linn. Gen. Pl. DIDYNAMIA GYMnospermia.

Cor. labium superius subcrenatum, fornicatum; inferius trifidum; faux utrinque dente obtusiusculo, concavo, acuto. Linn. Syst. Nat. ed. Gmel.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

GALEOPSIS *versicolor* foliis ovatis acutis ferratis, tubo floris calyce multo longiore.

GALEOPSIS *Tetralix*. Linn. Sp. Pl. ed. 3. var. β

GALEOPSIS foliis ovato-lanceolatis, ferratis, caule hirsuto flore calycis quadruplo. Hall. Hist. 269.

LAMIUM cannabinum aculeatum flore specioso luteo labiis purpureis. Pluk. Alm. 204. t. 41. f. 4.

CANNABIS spuria flore pallido labro purpureo elegante. Merr. Pin.

LAMIUM cannabinum folio, flore amplo luteo, labio purpureo. Raii Syn. ed. 3. p. 241. Fair-Flowered Nettle Hemp, or rather Hemp-Leaved Dead-Nettle with a particoloured flower.

RADIX annua.

CAULIS sesquipedalis et ultra, erectus, ramosissimus, obtuse tetragonus, hirsutus, ad genicula incrassatus.

RAMI alterne oppositi.

FOLIA caulina ovata, acuta, ramorum ovato-lanceolata, opposita, petiolata, subacuminata, venosa, superne pilis mollibus hirsutula, inferne nudiuscula, nervo medio venisque exceptis, ferrata, dentibus versus basin sensim minoribus.

PETIOLI hirsuti.

FLORES magni, speciosi, versicolores, sessiles, verticillati, verticillis multifloris, fummis subcontiguus.

CALYX: PERIANTHIUM monophyllum, tubulatum, nervosum, hirsutum, quinquedentatum, dentibus longitudine calycis, subæqualibus, aristatis, pungentibus, ore ciliato, ciliis demum intus convergentibus, tubus seminibus maturiscentibus, ventricosus evadit, fig. 1.

COROLLA flava, calyce triplo fere longior, pilis mollibus villosus, tubus cylindraceus, superne ampliatus, labium superius concavum, externe pilis longis hirsutum, denticulatum, a tubo sulco transversali divisum, labium inferius trifidum, lobis lateralibus ex inferiore parte albidis, intermedio emarginato purpureo, albo marginato, ad basin saturate flavo venis rubris pulchre reticulato hic utrinque exferuntur cornicula duo obtusa, fig. 2.

STAMINA: FILAMENTA quatuor, alba, quorum duo breviora; ANTHERÆ didymæ, primo rotundatae, demum acutæ, ciliatæ, fig. 3.

PISTILLUM: GERMINA quatuor; STYLUS subulatus; STIGMA bifidum, fig. 4.

SEMINA quatuor, in fundo calycis, obtuse trigona, apice rotundata, nigricantia, fig. 5.

ROOT annual.

STALK a foot and a half high or more, upright, very much branched, obtusely four-cornered, covered with strong rough hairs, thickened at the joints.

BRANCHES alternately opposite.

LEAVES of the stalk ovate and pointed, of the branches ovato-lanceolate, standing on foot-stalks, somewhat long-pointed, veiny, above slightly hirsute from being covered with soft hairs, beneath almost smooth excepting the midrib and veins, ferrated, teeth towards the base gradually smallest.

LEAF-STALKS hirsute.

FLOWERS large, showy, particoloured, sessile, growing in whorls, whorls many-flowered, the uppermost nearly contiguous.

CALYX: a PERIANTHIUM of one leaf, tubular, ribbed, hirsute, five-toothed, teeth the length of the calyx, nearly equal, ending in pungent awns, the mouth bearded, the hairs of which finally converge inwardly to a point, the tube as the seeds ripen bellies out, fig. 1.

COROLLA yellow, nearly thrice the length of the calyx, covered with soft hairs; the tube cylindrical, enlarged above, the upper lip concave, beset on the outside with long hairs, toothed on the edge, divided from the tube by a transverse groove, the lower lip divided into three segments, the side lobes on the lower part nearly white, the middle lobe purple edged with white, its base of a deep yellow colour beautifully marked with red veins in the form of net-work; here rise two small blunt horns, one on each side, fig. 2.

STAMINA: four FILAMENTS of a white colour, two long, two short; ANTHERÆ double, first nearly round, finally pointed and edged with hairs, fig. 3.

PISTILLUM: GERMINA four; STYLE tapering; STIGMA bifid, fig. 4.

SEEDS four in the bottom of the calyx, bluntly three-cornered, roundish at top, and nearly black, fig. 5.

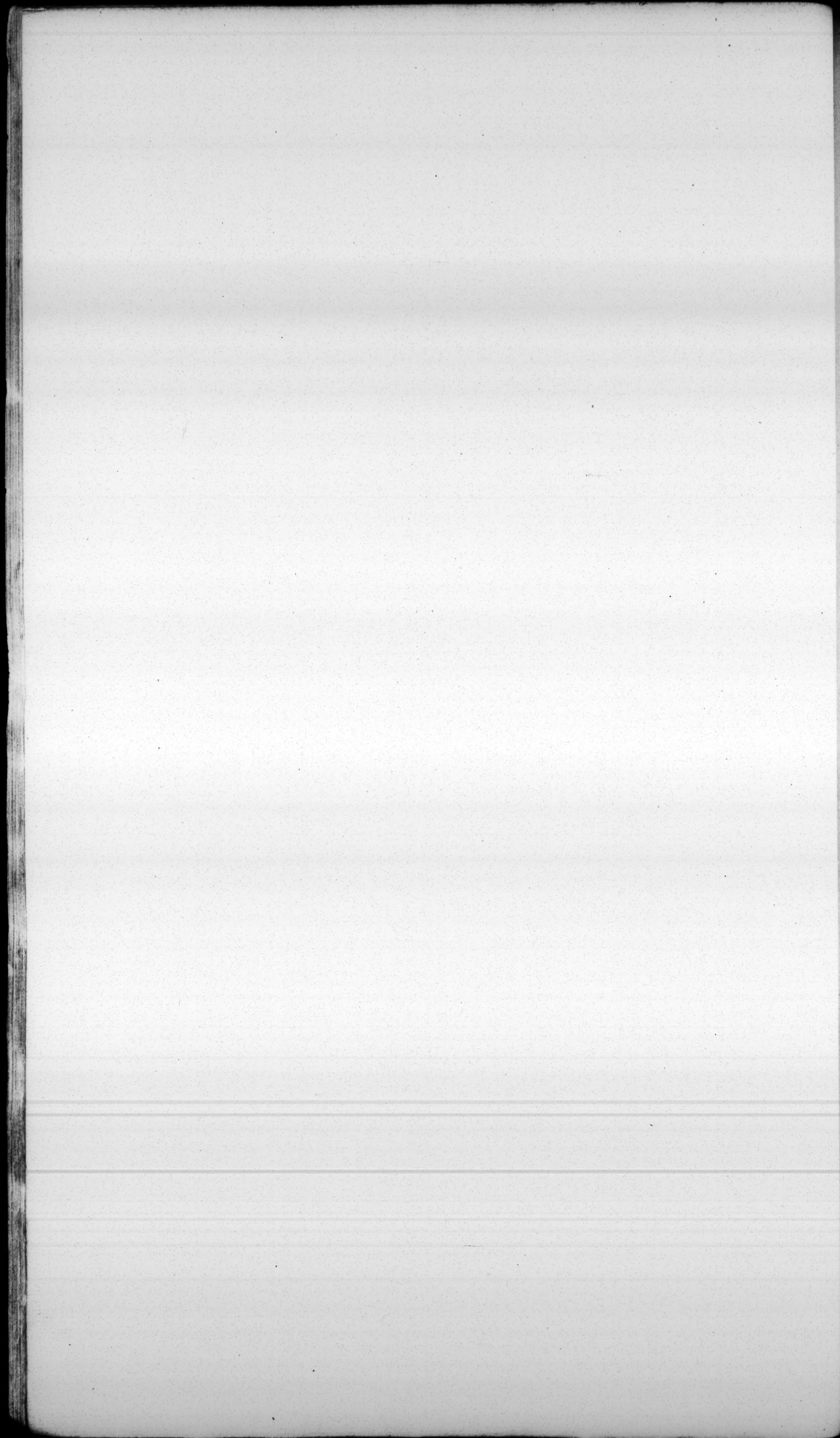
There undoubtedly is in most points a great affinity betwixt this plant and the *Galeopsis Tetralix*; but as the characters in which they differ are as constant as they are striking, we have thought it entitled to the rank of a species, more especially as many of the old writers have been of the same opinion, and several of the moderns.

In its habit it is shorter and more bushy than the *Tetralix*, its leaves are broader, and its flowers differ not only in colour but in size; there are many parts of the country also in which the one is found abundantly, the other not at all; and lastly, it comes up from seeds every year invariably the same.

The beauty of its flowers is sufficient to entitle it to a place in the Flower-Garden; its flowering period is not of very long duration: in corn-fields, where it is often found too abundantly, like the *Tetralix* it is a very troublesome weed, the rough hairs with which the plant is covered proving highly injurious to the hands and arms of the reapers.

In many parts of Yorkshire we have seen this plant growing very plentifully among the corn; the fields about London are exempt from it.

It flowers in July and ripens its seeds in August; as these are produced in abundance and vegetate freely, such as wish to have the plant in their possession may succeed in its culture without any difficulty.







Galeobdolon Galcopsis.

GALEOBDOLON GALEOPSIS. YELLOW ARCHANGEL.

GALEOBDOLON *Hudson Fl. Angl.* DIDYNAMIA GYMNOSPERMIA.

Raii Syn. Gen. 24. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

GALEOBDOLON *luteum.* *Hudson. Fl. Angl. ed. 2.* p. 258.

GALEOPSIS *Galeobdolon verticillis sexfloris; involucro tetraphyllo.* *Lin. Syst. Vegetab.* p. 446. *Spec. Pl.* p. 810.

CARDIACA foliis petiolatis, cordatis, verticillis foliosis. *Haller. Hist.* 275.

LEONURUS *Galeobdolon.* *Scopoli Fl. Carn.* n. 705.

LAMIUM folio oblongo luteum. *Baub. Pin.* 231. *Lamium luteum.* *Ger. emac.* 671. *Parkins* 606. *Raii Syn.* p. 240. Yellow Archangel or Dead Nettle.

GALEOPSIS *Galeobdolon.* *Lightfoot Fl. Scot.* p. 310.

RADIX	perennis, inæqualis, fibras plurimas, majusculas, in terram demittens.	ROOT	perennial, irregular, sending down several largish fibres.
CAULES	plures, tetragoni, hirsutuli, floriferi suberecti, pedales seu bipedales, steriles peractâ florentiâ, in longum extenduntur, et postea humi repent.	STALKS	several, four-cornered, somewhat hirsute; those producing flowers nearly upright, a foot or two feet high; those destitute of blossoms, after the flowering is over, are extended to a great length, and afterwards creep on the ground.
FOLIA	opposita, petiolata, hirsutula, inæqualiter serrata, venosa, inferioribus cordatis, superioribus ovatis, acutis, sessilibus.	LEAVES	opposite, standing on foot-stalks, slightly hirsute, unevenly serrated, and veiny; the lower ones heart-shaped, the upper ones ovate, pointed, and sessile.
FLORES	verticillati, lutei.	FLOWERS	growing in whirls, of a yellow colour.
VERTICILLI	sex, decem aut duodecim flori.	WHIRLS	containing from six to ten or twelve flowers.
CALYX:	<i>Involucrum</i> verticillis subjectum, foliolis tot quot floribus, linearibus, acutis, rigidulis, ad lentem ciliatis, fig. 2.	CALYX:	an <i>Involucrum</i> placed under the whirls, composed of as many leaves as there are flowers, the leaves linear, pointed, somewhat rigid, when magnified fringed at the edge. fig. 2.
CALYX:	PERIANTHIUM monophyllum, subcampanulatum, quinquedentatum, hirsutulum, lineis decem elevatis notatum, alternis obsolete, dentibus subæqualibus, acuminatis, superiore erecto, distant, duobus inferioribus reflexopatulis. fig. 1.	CALYX:	a PERIANTHIUM of one leaf, somewhat bell-shaped, having five teeth, slightly hirsute, marked with ten elevated lines, alternately faintest, the teeth nearly equal, having long points, the uppermost upright, and at a distance from the rest; the two lowermost spreading open and turned somewhat back. fig. 1.
COROLLA	monopetala, ringens; <i>tubus</i> calyce paulo longior, intus purpureus et pilosus; <i>labium superius</i> erectum, longum, fornicatum, villosum, villisque ciliatum; <i>inferius</i> trifidum, laciniis inæqualibus, maculatis, mediâ productiore. fig. 3, 4.	COROLLA	monopetalous and ringent; <i>tube</i> a little longer than the calyx, purple and hairy within; <i>upper lip</i> upright, long, arched; villous, and edged with woolly hairs; the lowermost divided into three unequal segments which are spotted, the middle one longest. fig. 3, 4.
STAMINA:	FILAMENTA quatuor, subulata, flava, sub labio superiore. ANTHERÆ bilobæ, purpurascens. POLLEN albidum. fig. 5, 6.	STAMINA:	four FILAMENTS tapering, of a yellow colour, under the upper lip. ANTHERÆ composed of two lobes and purplish. POLLEN whitish. fig. 5, 6.
PISTILLUM:	GERMEN quadripartitum. STYLUS filiformis, purpureus. STIGMA bifidum, acutum. fig. 7.	PISTILLUM:	GERMEN divided into four parts. STYLE filiform and purple. STIGMA bifid and pointed. fig. 7.
SEMINA	quatuor, e fusco nigricantia, nitidula, triquetra, apice truncata in fundo calycis. fig. 9.	SEEDS	four, of a brownish black colour, somewhat shining, three cornered, cut off at top, remaining in the bottom of the calyx. fig. 9.

LINNÆUS, though he enumerates this plant with the *Galeopsis* tribe, seems to think it not perfectly reconcileable with the rest. HALLER and SCOPOLI disagree in their opinions respecting it; the one considering it as a *Cardiaca*, the other as a *Leonurus*. Mr. HUDSON, whom we have followed in this instance, in the last edition of his *Flora Anglica*, makes a separate genus of it under the name of *Galeobdolon*; we adopt the trivial name of *Galeopsis* instead *luteum*, with a view of making as little innovation as possible in names.

It is always found in woods and shady places. In some parts of *England* it is frequent, but not in others: we find it tolerably plentiful in *Charlton*, and some other Woods about town, flowering in *May* and *June*.

The foliage is sometimes variegated, in which state I have observed it make a beautiful appearance in a garden. In cultivating this, as well as all other plants, attention should be paid to their natural place of growth.







Betonica officinalis

BETONICA OFFICINALIS. WOOD BETONY.

BETONICA *Lin. Gen. Pl. DIDYNAMIA GYMnospermia Cal. aristatus. Corollæ lab. super. adscendens, planiusculum; Tubus cylindricus.*

Raii Syn. Gen. 14. Suffrutices et Herbæ verticillatæ.

BETONICA *officinalis spica interrupta, corollarum lacinia labii intermedia emarginata. Lin. Spec. Pl. p. 810. Fl. Suecic. n. 515.*

BETONICA *foliis petiolatis, imis cordatis, superioribus ovatis, crenatis, spica brevi, foliis infidentis. Haller Hist. n. 264.*

BETONICA *officinalis Scopoli Fl. Carniol. p. 422.*

BETONICA *purpurea. Baubin pin.*

BETONICA *vulgaris flore purpureo Parkinson. p. 238. Gerard emac. 714. Raii Syn. p. 238. Wood-Betony. Hudson. Fl. Angl. ed. 2.*

Lightfoot Fl. Scot. p. 311.

RADIX perennis, crassitie minimi digiti, horizontalis, sublignosa, e luteo fusca, transversim rugosa, fibris plurimis albidis, tenacibus, fibrillosis, alte descendentibus instructa.

CAULIS pedalis aut ultra, erectus, plerumque simplex, in hortis ramosus, tetragonus, angulis obtusis, lateribus duobus magis excavatis, scabrusculus pilis rigidulis, deorsum versis, sub appressis, geniculatus, geniculis superne remotis.

FOLIA radicalia longe petiolata, oblongo-cordata, crenata, obtusa, venoso-rugosa, subnuda, undique minutim punctata, punctis excavatis, margine ciliata, caulina opposita, angustiora, potius serrata quam crenata, reflexa, marginibus sæpius revolutis.

FLORES purpurei, spicati.

SPICA terminalis, oblonga, e plurimis verticillis sessilibus, approximatis composita, inferioribus sæpius remotis.

BRACTEÆ plurimæ, verticillis subjectæ, lanceolatæ, calyce paulo breviores.

CALYX: **PERIANTHIUM** tubulatum, interne villosum, turbinatum, quinque-dentatum, aristatum, persistens. *fig. 1.*

COROLLA monopetala, *Tubus* incurvus, infra glaber, albus, supra purpureus, extus et intus pubescens, calyce longior, *Labium* superius subrotundum, integrum, planum, erectum, inferius trifidum; *lacinula media* latiori, subrotunda, emarginata. *fig. 2.*

STAMINA: **FILAMENTA** quatuor, subulata, alba, pubescentia, tubo longiora, quorum duo inferiora paulo breviora; **ANTHERÆ** e rubro purpurascens, bilobæ, lobis subrotundis. *fig. 3.*

PISTILLUM: **GERMEN** quadripartitum; **STYLUS** subulatus, albidus, glaber, staminibus paulo longior; **STIGMA** bifidum, *fig. 4. 6.*

NECTARIUM *fig. 5.*

SEMINA quatuor, fusca, glabra, triquetra, latere exteriore convexo, interiore gibboso. *fig. 7.*

ROOT perennial, the thickness of the little finger, horizontal, somewhat woody, of a yellowish brown colour, wrinkled transversely, and furnished with numerous, long, whitish, tough, fibrous strings.

STALKS a foot or more in height, upright, generally simple, in gardens branched, four-corner'd, the corners obtuse, and two of the sides more deeply hollowed than the others, roughish, the hairs, somewhat rigid, turning downward and press'd towards the stalk, jointed, the joints near the top of the stalk removed far from each other.

LEAVES next the root standing on long footstalks, of an oblong heart-shaped figure, bluntly notched, obtuse, veiny and somewhat wrinkled, covered with few hairs, but dotted all over with small hollow points, the edge fringed with hairs, those on the stalk, opposite, narrower, and rather serrated than crenated, hanging down, the edges generally curled back.

FLOWERS purple, growing in a spike.

SPIKE terminal, oblong, composed of several sessile close whirls, the lowermost of which are most commonly remote from the others.

BRACTÆ numerous, placed under each whirl, lanceolate, and a little shorter than the Calyx.

CALYX: a **PERIANTHIUM** tubular, internally vilious, broadest at top, having five teeth, which terminate in five long points, and are permanent. *fig. 1.*

COROLLA monopetalous; the *Tube* bending inwards, below smooth and white, above purple, downy both within and without, and longer than the calyx; the upper *Lip* roundish, entire, flat, and upright, the lower one divided into three segments, the middle one of which is broader than the others, roundish with a notch in the middle. *fig. 2.*

STAMINA: four **FILAMENTS**, tapering, white, and downy, longer than the tube, of which the two lowermost are somewhat the shortest; **ANTHERÆ** of a reddish purple colour, composed of two roundish lobes. *fig. 3.*

PISTILLUM: **GERMEN** divided into four parts; *Style* tapering, whitish, smooth, somewhat longer than the *Stamina*; **STIGMA** bifid. *fig. 4. 6.*

NECTARY *fig. 5.*

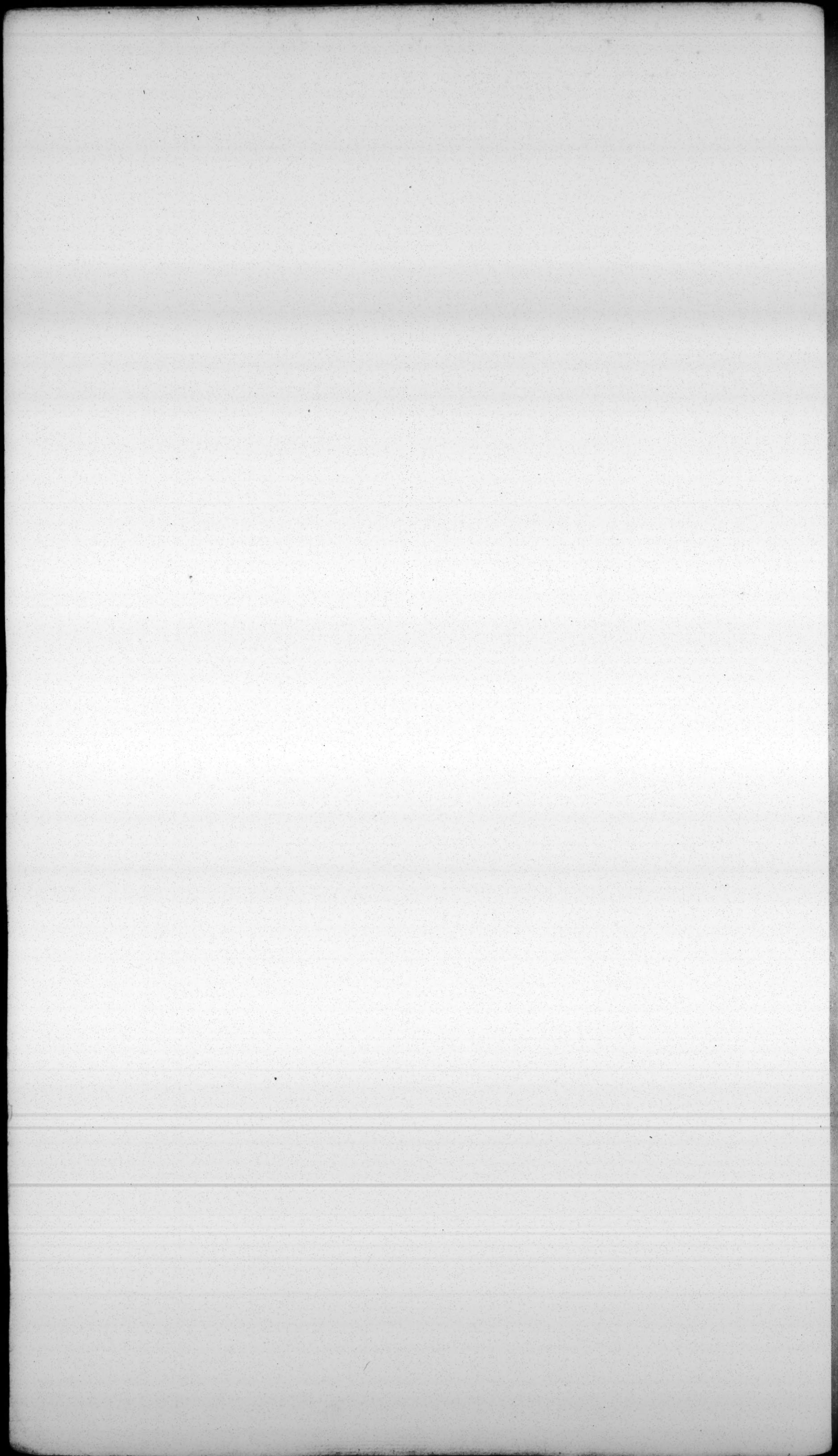
SEEDS four, brown, smooth, three corner'd, the outermost side convex the innermost gibbous. *fig. 7.*

ANTONIUS MUSA Physician to the Emperor Augustus wrote an entire book on this plant, whence it began to be held in such esteem in Italy as to occasion the Proverb *vende la tonica et compra la Betonica* that is *sell your coat and buy Betony* and when they wished to extol a person they would say *Tu hai piu virtu, che non ha la Betonica, you have more virtues than Betony.* *Matth. in Dioscor. p. 943. Raii Hist. p. 550.*

The leaves and flowers of Betony have an herbaceous roughish somewhat bitterish taste accompanied with a very weak aromatic flavour. This herb has long been a favourite among writers on the *Materia Medica* who have not been wanting to attribute to it abundance of good qualities. Experience does not discover any other virtue in Betony than that of a mild corroborant; as such, an infusion or light decoction of it may be drank as tea, or a saturated tincture in rectified spirit given in suitable doses, in laxity and debility of the viscera, and disorders proceeding from thence. The powder of the leaves, snuffed up the nose, provokes sneezing, and hence Betony is sometimes made an ingredient in sternutatory powders: this effect does not seem to be owing, as is generally supposed to any peculiar stimulating quality in the herb but to the rough hairs which the leaves are cover'd with. The roots of this plant differ greatly in quality from the other parts: their taste is bitter and very nauseous: taken in a small dose they vomit and purge violently, and are supposed to have somewhat in common with the roots of Hellebore. *Lewis's Disp. p. 103.*

Betony grows abundantly in all our woods, about Town, and on some of the Heaths, flowering in July, August and September.

RAY observes that it is sometimes found with white and sometimes with flesh-colour'd blossoms.







Stachys arvensis.

STACHYS ARVENSIS. CORN STACHYS.

STACHYS *Lin. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Corollæ lab. super. fornicatum, lab. inferius lateribus reflexum: intermedia majore emarginata. *Stamina* deflorata versus latera reflexa.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

STACHYS *arvensis* verticillis sexfloris, foliis obtusis nudiusculis, corollis longitudine calycis, caule debili. *Lin. Syst. Vegetab. p. 448. Sp. Pl. p. 814.*

GLECOMA *arvensis. Lin. Fl. Suec. n. 512. Hudson Fl. Angl. ed. 1. p. 224. upright Ground-ivy.*

TRIXAGO foliis ovatis, cordatis, rotunde dentatis, hirsutis. *Haller. Hist. n. 231.*

SIDERITIS alfinis trixaginis folio. *B. Pin. 233.*

SIDERITIS hederulæ folio. *Park. 587.*

SIDERITIS humilis lato obtuso folio. *Gerard. emac. 699.*

STACHYS *arvensis minima. Riv. Irr. Mon. icon. Raii Syn. p. 242. Hudson Fl. Angl. ed. 2. p. 260. Corn Stachys. Lightfoot Fl. Scot. p. 314. petty Iron-wort or All-heal. Oeder Fl. Dan. t. 587.*

RADIX annua, fibrosa.

CAULIS spithamæus seu pedalis, inter segetes, ubi nobiscum sæpius invenitur, erectus (procumbens seu debilis rarius observatur) ramosus, tetragonus, hirsutus. Rami alterni, oppositi.

FOLIA opposita, petiolata, ovato-cordata, obtusa, venosa, hirsuta, obtuse ferrata, summa sessilia.

FLORES parvi, carnei, verticillati, spicati.

VERTICILLI circiter sexflori.

CALYX: PERIANTHIUM quinque-dentatum, persistens, patens, hirsutum. *fig. 1.*

COROLLA ringens, parva, calyce paulo longior, pallide purpurea, labio superiore brevior, obtuso, integro, inferiore trifido, laciniis lateralibus brevioribus, media majori, rotundata. *fig. 2.*

STAMINA: FILAMENTA quatuor, quorum duo breviora, inferne alba, superne purpurea; ANTHERÆ nigricantes; POLLEN flavum. *fig. 3.*

PISTILLUM: GERMEN quadripartitum, viride. STYLUS longitudine staminum. STIGMA bifidum, acutum. *fig. 4.*

SEMINA quatuor intra calycem, virefcentia, nigro punctata. *fig. 5.*

ROOT annual and fibrous.

STALK a span or a foot in height, among the corn where it is generally found with us upright, (it is more rarely found weak or procumbent), branched, four cornered, hirsute. Branches alternately opposite.

LEAVES opposite, standing on foot-stalks, ovate, with an heart-shaped base, obtuse, veiny, hirsute, bluntly ferrated, the uppermost ones sessile.

FLOWERS small, flesh-coloured, growing in whirls, and forming a spike.

WHIRLS containing six flowers in each.

CALYX: PERIANTHIUM with five teeth, permanent, projecting horizontally, and hairy. *fig. 1.*

COROLLA ringent, small, a little longer than the calyx, of a pale purple colour, the upper lip short, blunt, and entire; the lower one divided into three segments, of which the two side ones are the shortest, the middle one large and roundish. *fig. 2.*

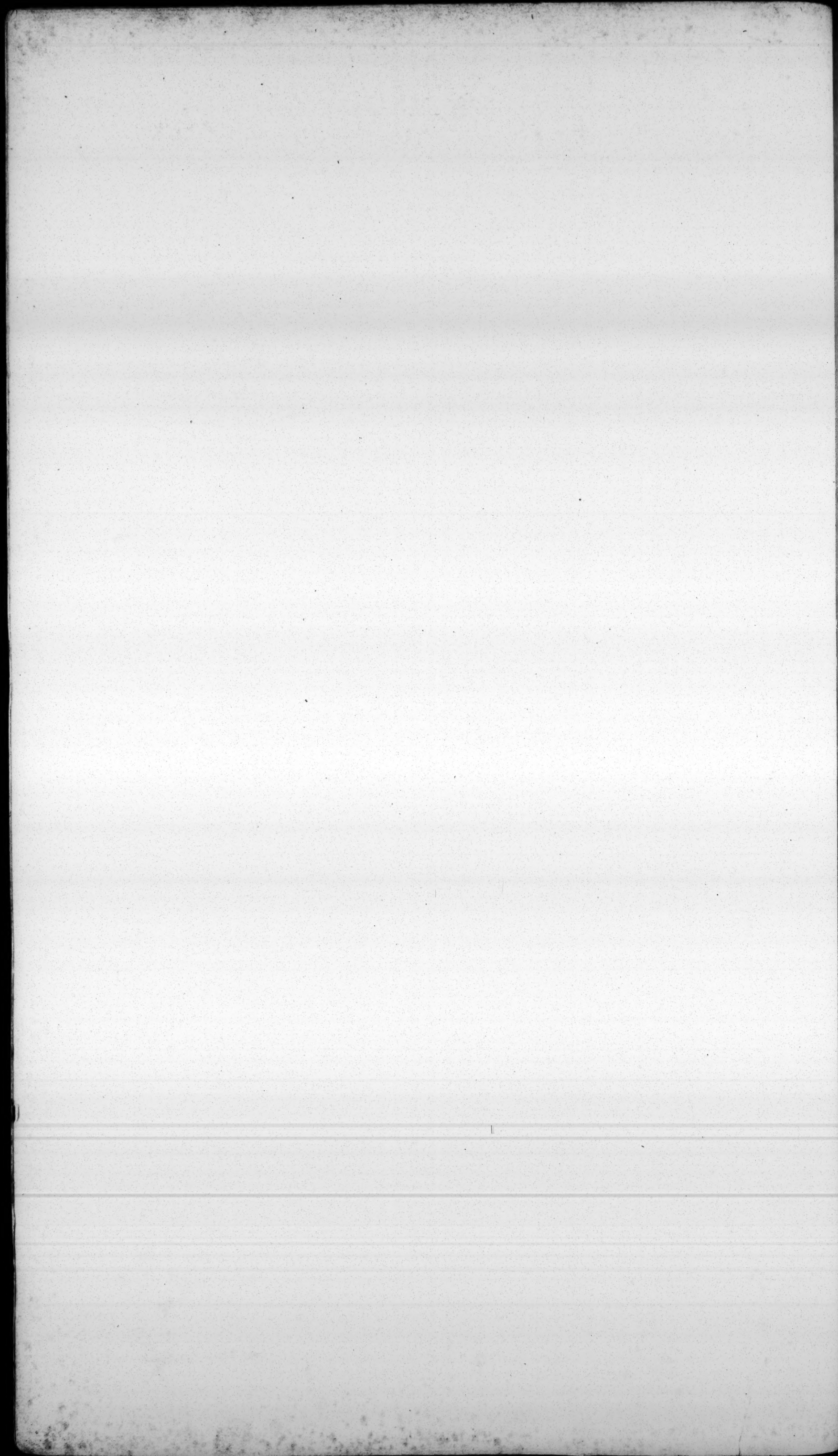
STAMINA: four FILAMENTS, two of which are shorter than the rest, white below, and purple above; ANTHERÆ blackish; POLLEN yellow. *fig. 3.*

PISTILLUM: GERMEN divided into four parts, of a green colour. STYLE the length of the stamina. STIGMA bifid and pointed. *fig. 4.*

SEEDS four within the calyx, of a greenish colour, dotted with black. *fig. 5.*

Botanists, both ancient and modern, seem to have been at a loss with what genus of plants they should class this small inhabitant of our Corn-fields. At various times, and by various authors, it has been called a *Sideritis*, a *Lamium*, a *Marrubiastrum*, a *Glechoma*, a *Stachys*, and a *Trixago*. It appears neither to possess the striking characters of any other genus, nor to afford sufficient distinction to form a genus by itself. As a species, however, there is no difficulty about it; its place of growth, the smallness of its flowers, and form of its leaves, obviously distinguish it from any other English plant.

It is not uncommon in the Corn-fields about the *Oak of Honour* and *Coomb Woods*, and elsewhere about London; it flowers in *June, July, and August.*







Stachys sylvatica.

STACHYS SYLVATICA. HEDGE NETTLE.

STACHYS *Lin. Gen. Pl.*

DIDYNAMIA GYMNOSPERMIA.

Corollæ lab. super. fornicatum, lab. inferius latèribus reflexum, intermedia majore emarginata, *Stamina* deflorata versus latera reflexa.

Raii Syn. Gen. 24. SUFFRUCTICES ET HERBÆ VERTICILLATÆ.

STACHYS *sylvatica* verticillis sexfloris, foliis cordatis petiolatis. *Lin. Syst. Veg.* p. 447. *Sp. Pl.* 811. *Fl. Suecic.* n. 526.

CARDIACA foliis cordatis ferratis, verticillis nudis, spicatis. *Haller. hist.* n. 216.

STACHYS *sylvatica*. *Scopoli Fl. Carniol.* n. 706.

LAMIUM maximum sylvaticum fœtidum. *Bauh. pin.* 231.

GALEOPSIS vera. *Ger. emac.* 709.

GALEOPSIS legitima Dioscoridis. *Park.* 608. *Raii Syn. ed.* p. 343. Hedge-Nettle.

GALEOPSIS five urtica iners magna fœtidissima. *J. B. III.* 853.

Hudson Fl. Angl. ed. 2. p. 259. *Lightfoot Fl. Scot.* p. 312.

RADIX perennis, repens.

CAULIS erectus, pedalis ad tripedalem, quadrangulatus, hirsutus, ramosus.

RAMI oppositi, suberecti, cauli similes.

FOLIA petiolata, cordata, acuta, ferrata, venosa, utrinque hirsuta.

PETIOLI hirsuti, longitudine foliorum.

FLORES saturate at vivide purpurei, verticillati, laxe spicati, verticillis sexfloris, brevibus pedicellis insidentibus; ad singulum geniculum setæ duodecim, utrinque sex, floribus subjectæ.

CALYX: PERIANTHIUM monophyllum, campanulatum, hirsutum, viscidum, punctis prominulis scabrum, purpurascens, quinquedentatum, dentibus acutis, patentibus, supremo paulo longiore. *fig.* 1.

COROLLA monopetala, ringens, purpurea, tubus brevissimus, albus, fauce tenuior, apice stragulatatus, et interne villosus; *Faux* nitida, subcylindracea, paululum incurvata, superne villis minimis adspersa; *Labium* superius ovatum, obtusum, integerrimum, inferne concavum, superne convexum, viscidulum, *Labium* inferius majus, trifidum; albo pulchre variegatum, lacinulâ intermedia subemarginata, replicata. *fig.* 2. 3. 4.

STAMINA: FILAMENTA quatuor, quorum duo paulo longiora, purpurea, nitida, medio paululum incrassata, et pilosa; ANTHERÆ primum obscure violaceæ, demum nigricantes; POLLEN album. *fig.* 5.

PISTILLUM: GERMEN quadripartitum; STYLUS filiformis; situ et longitudine staminum; STIGMA bifidum, acutum. *fig.* 6. 7. 8.

NECTARIUM: *Glandula* majuscula, totam basin germenis cingens. *fig.* 9.

PERICARPIUM nullum; Calyx continens

SEMINA quatuor, ovata, angulata. *fig.* 10.

ROOT perennial, and creeping.

STALK upright, from one to three feet high, square, hirsute and branched.

BRANCHES opposite, nearly like the stalk.

LEAVES standing on footstalks, heart-shaped, pointed, ferrated, veiny, hirsute on both sides.

LEAF-STALKS hirsute, the length of the leaves.

FLOWERS of a deep but bright colour, growing in whirls and forming a loose spike, about six flowers in each whirl, sitting on short flowerstalks, at each joint, twelve setæ or fine pointed leaves, six on each side, placed under the flowers.

CALYX: a PERIANTHIUM of one leaf, bell-shaped, hirsute, viscid, rough with little prominent points, of a purplish colour, having five pointed spreading teeth, of which the uppermost is somewhat the longest. *fig.* 1.

COROLLA monopetalous, ringent, purple, the tube very short, white, slenderer than the faux, strangled at top where it is villous on the inside; *Faux* shining, somewhat cylindrical, bending a little down, on the upper part covered with numerous short hairs; the upper *Lip* ovate, obtuse, entire, below concave, above convex, and somewhat viscid, the lower *Lip* large, trifid, beautifully variegated with white, the middle segment slightly notched, and having its sides folded back. *fig.* 2. 3. 4.

STAMINA: four FILAMENTS, two of which are a little longer than the others, purple, shining, thickened a little in the middle and hairy; ANTHERÆ at first of a dull violet colour, finally blackish; POLLEN white. *fig.* 5.

PISTILLUM: GERMEN divided into four parts; STYLE thread-shaped, situated with and of the same length as the stamens; STIGMA bifid, and pointed. *fig.* 6. 7. 8.

NECTARY: a largish *Gland* surrounding the whole base of the germen. *fig.* 9.

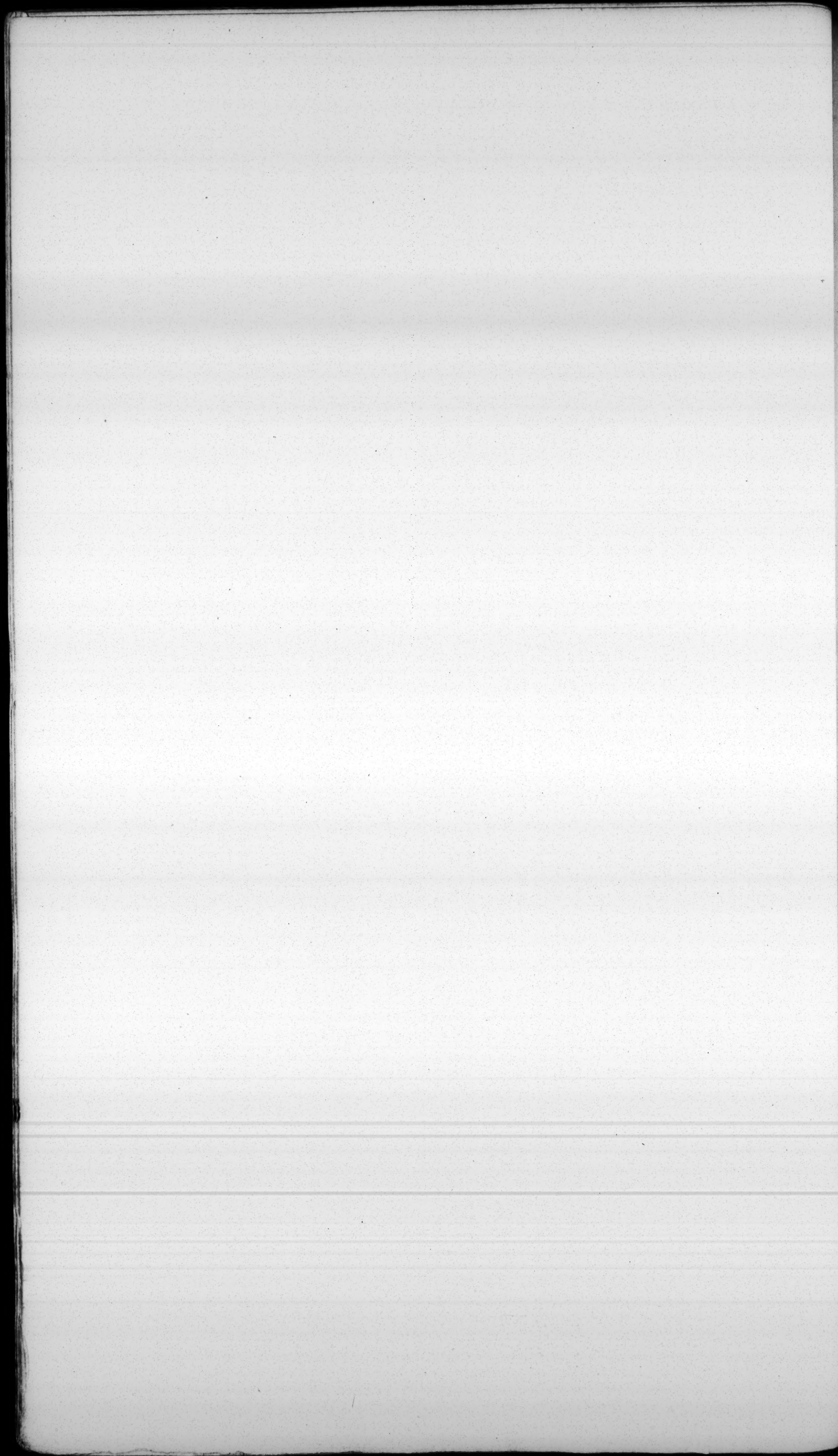
SEED-VESSEL none, the Calyx containing.

SEEDS; four ovate and angular. *fig.* 10.

In the parts of fructification, there is a considerable similarity betwixt this species and the palustris, but in the form of its leaves it differs very materially.

It grows in almost every shady ditch about London and elsewhere, and flowers in June and July, its blossoms have sufficient beauty to recommend them, and they might perhaps be more an object of admiration, did not the plant, on being in the least bruised, smell disagreeably, if not bruised, its scent is rather of the agreeable kind.

The Snail, excepted few animals, appear to relish it.







Stachys palustris.

STACHYS PALUSTRIS. CLOWN'S ALLHEAL.

STACHYS *Lin. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Corollæ lab. super. fornicatum, lab. inferius lateribus reflexum, intermedia majore emarginata. STAMINA deflorata versus latera reflexa.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

STACHYS *palustris* verticillis subsexfloris, foliis lineari lanceolatis semiamplexicaulibus sessilibus. *Lin. Syst. Vegetab. p. 447. Sp. Pl. 811. Fl. Suec. n. 528.*

STACHYS foliis hirsutis, elliptico-lanceolatis, breviter petiolatis, verticillis spicatis. *Haller Hist. n. 257.*

STACHYS *palustris. Scopoli Fl. Carn. n. 707.*

STACHYS *palustris foetida. Baub pin. 236.*

SIDERITIS *Anglica strumosa radice. Park. 587.*

PANAX *coloni. Gerard. emac. p. 1005. Raii Syn. p. 242. Clown's Allheal.*

Lightfoot Fl. Scot. p. 313.

Hudson. Fl. Angl. ed. 2. p. 259.

RADIX perennis, repens, stolonibus plurimis, albis, per terram in longum extensis, quorum extremitates sub finem æstatis in tubera intumescunt.

CAULIS bipedalis, erectus, ramosus, fistulosus, quadrangularis, lateribus planiusculis, angulis hispidulis, pilis deorsum versis, geniculatus, geniculis pilosis, purpureis.

RAMI cauli similes.

FOLIA opposita, sessilia, subamplexicaulia, lanceolata, patentia, ferrata, subrugosa, nervo medio subtus scabriusculo.

FLORES verticillati, spicati, pallide purpurei, verticillis decemfloris, octo in circulum dispositis, uno utrinque superimposito.

SPICA spithamæa, erecta.

BRACTEÆ ovato-acuminatæ, integerrimæ, hirsutæ, trinerves, deflexæ.

CALYX: PERIANTHIUM monophyllum, tubulatum, quinquesidum, hirsutulum, purpurascens. lineis decem elevatis notatum, ore patulo, dentibus subæqualibus, acuminatis. *fig. 1.*

COROLLA monopetala, ringens, *tubus* brevissimus, cylindraceus, pilis interne coronatus, *faux* oblonga, compressiuscula, subincurvata, punctis duobus prominulis ad basin labii superioris, *labium* superius erectum, subovatum, fornicatum, emarginatum, superne viscidum, *labium* inferius majus, trifidum, albo et purpureo pulchre variegatum, lacinulâ intermedia maxima, concava. *fig. 2. 3. 4.*

STAMINA: FILAMENTA quatuor, quorum duo paulo breviora, ad lentem subpilosa, medio crassiora, rubicunda, nitida; ANTHERÆ e purpureo-nigricantes; POLLEN album. *fig. 5. 6.*

PISTILLUM: GERMEN quadripartitum; STYLUS filiformis longitudine staminum; STIGMA bifidum, acutum. *fig. 7. 8. 9.*

ROOT perennial, creeping, shoots numerous, white, extending under ground to a great length, their extremities at the close of the summer becoming tuberous.

STALK two feet high, upright, branched, hollow, four corner'd, the sides flattish, the corners somewhat hispid with hairs which turn downward, jointed, the joints hairy, and purple.

BRANCHES like the stalk.

LEAVES opposite, sessile, slightly embracing the stalk, lanceolate, spreading, serrated, somewhat wrinkly, the midrib on the under side of the leaf roughish.

FLOWERS of a pale purple colour, growing in whirls which form a spike, in each whirl is ten flowers, eight placed circularly, and one on each side above them.

SPIKE six or eight inches high.

FLORAL-LEAVES ovate and pointed, entire, hirsute, threenib'd, and turned downward.

CALYX: a PERIANTHIUM of one leaf, tubular, divided into five segments, slightly hirsute, purplish, marked with ten elevated lines, the mouth open, the teeth nearly equal and pointed. *fig. 1.*

COROLLA monopetalous, ringent; *tube* very short, cylindrical, crowned internally with hairs; *mouth* oblong, somewhat flattened and a little bent, marked with two prominent dots at the base of the upper *lip*; upper *lip* upright, somewhat ovate, arched, nicked, and viscid at top; the lower *lip* larger, divided into three segments, beautifully variegated with white and purple, the middle segment very large and hollow. *fig. 2. 3. 4.*

STAMINA: four FILAMENTS, two of which are somewhat shorter than the other two, hairy when magnified, thickest in the middle, reddish and shining; ANTHERÆ, of a purplish black colour; POLLEN white. *fig. 5. 6.*

PISTILLUM: GERMEN divided into four parts; STYLE thread shaped, the length of the stamina; STIGMA bifid, and pointed. *fig. 7. 8. 9.*

GERARD has been extremely lavish in his praises of this plant as a vulnerary, whence it has acquired its name of *Clown's Wound-wort*, or *All-heal*. He mentions the case of a labouring man, who in reaping cut a deep gash in his leg, which by the application of this herb was presently healed, and which doubtless would have healed equally soon from the application of any other simple herb, or a little dry lint. In sound constitutions nature often performs wonders in this way, which generally are attributed to the application.

It behoves the Farmer to know it, as it is a very noxious plant in many corn-fields, encreasing very much by its roots, which towards the close of the summer become tuberous at their extremities; it encreases also by seed. Hogs are said by LINNÆUS to be fond of the roots; when the crop is off they may probably be turned into those fields where the plant abounds to great advantage.

It is not confined to corn fields, but is often met with by road sides, especially in moist situations. It flowers in July and August.







Origanum vulgare.

ORIGANUM VULGARE. WILD MARJORAM.

ORIGANUM. *Lin. Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

Strobilus tetragonus, spicatus, calyces colligens. fig. 6.

Raii Synop. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

ORIGANUM *vulgare* spicis subrotundis paniculatis conglomeratis, bracteis calyce longioribus ovatis. *Lin. Syst. Vegetab. p. 452. Spec. Pl. p. 824. Fl. Succ. n. 531.*

ORIGANUM foliis ovatis, umbellis coloratis, flaminibus exsertis. *Haller hist. n. 233.*

ORIGANUM *vulgare. Scopoli Fl. Carn. n. 740.*

ORIGANUM sylvestre. *Bauh. pin. 223.*

ORIGANUM anglicum. *Ger. emac. 666.*

MAJORANA sylvestris. *Park. 12.*

ORIGANUM *vulgare spontaneum. Bauh. hist. III. 236.*

Raii Syn. 236. Wild Marjoram. Hudson Fl. Angl. ed. 2. p. 262. Lightfoot Fl. Scot. p. 317.

RADIX perennis, repens, horizontalis, fusca, plurimis fibris capillata.

CAULIS pedalis, ad sesquipedalem, erectus, tetragonus, purpurascens, pubescens, ramosus.

RAMI oppositi, erecti, caule teneriores, in cæteris conformes.

FOLIA ad genicula, opposita, petiolata, ovata, acuta, minutim et rariter dentata, supra glabriuscula, subtus pubescentia, utrinque punctata, margine minutim ciliata, patentia.

PETIOLI pubescentes.

AXILLÆ foliorum in planta culta foliolis onustæ.

FLORES paniculati, *panicula* e spicis plurimis, subrotundis, conglomeratis composita.

BRACTEÆ ovato-lanceolatae, sessiles, concavae, integrae, corollâ intensius coloratae, ad lentem pubescentes, floribus subjectæ singulae, *fig. 1.*

CALYX: PERIANTHIUM monophyllum, tubulatum, striatum, subpubescens, pedicellatum, longitudine fere bracteæ, ore barbato, quinquefido, laciniis acutis, erectis, æqualibus, purpureis, *fig. 2.*

COROLLA infundibuliformis, purpurea, *tubus* villosus, sensim sursum ampliatus, calyce longior, *limbus* bilabiatus, *labium superius* erectum, bifidum, obtusum, *inferius* trifidum, patens, obtusum, *fig. 3.*

STAMINA: FILAMENTA quatuor, purpurea, corollâ paulo longiora, duobus inferioribus paulo longioribus; ANTHERÆ didymæ, saturatius coloratae, *fig. 4.*

PISTILLUM: GERMEN quadripartitum; STYLUS filiformis, corollâ longior; STIGMA bifidum, acutum, revolutum, *fig. 5.*

SEMINA quatuor, ovata, in sinu calycis conniventis.

ROOT perennial, creeping, horizontal, brown, tufted with numerous fibres.

STALK, a foot or a foot and a half high, upright, four cornered, purplish, downy, and branched.

BRANCHES opposite, upright, more tender than the stalk, in other respects similar.

LEAVES placed at the joints, opposite, standing on foot-stalks, ovate, pointed, finely and rarely toothed, above nearly smooth, beneath downy, dotted on both sides, the edge finely fringed, spreading.

LEAF-STALKS downy.

ALÆ of the leaves, in the cultivated plant, bearing numerous small leaves.

FLOWERS forming a *panicle*, composed of numerous, roundish spikes, growing in clusters.

FLORAL-LEAVES ovato-lanceolate, sessile, concave, entire, more deeply coloured than the corolla, appearing downy when magnified, placed one under each flower, *fig. 1.*

CALYX: A PERIANTHIUM of one leaf, tubular, striated, slightly downy, standing on a short foot-stalk, and almost the length of the floral-leaf, the mouth bearded, divided into five, pointed, upright, equal, purple segments, *fig. 2.*

COROLLA funnel-shaped, purple, the *tube* villous, gradually enlarged upwards, longer than the calyx, the *limb* composed of two lips, the *upper lip* upright, bifid and obtuse, the *lower lip* trifid, spreading and obtuse, *fig. 3.*

STAMINA: four purple FILAMENTS, a little longer than the corolla, the two lowermost somewhat the longest; ANTHERÆ double, and more deeply coloured, *fig. 4.*

PISTILLUM: GERMEN divided into four parts. STYLE filiform, longer than the corolla; STIGMA bifid, pointed, and turned back, *fig. 5.*

SEEDS four, ovate, in the bottom of the calyx, which closes over them.

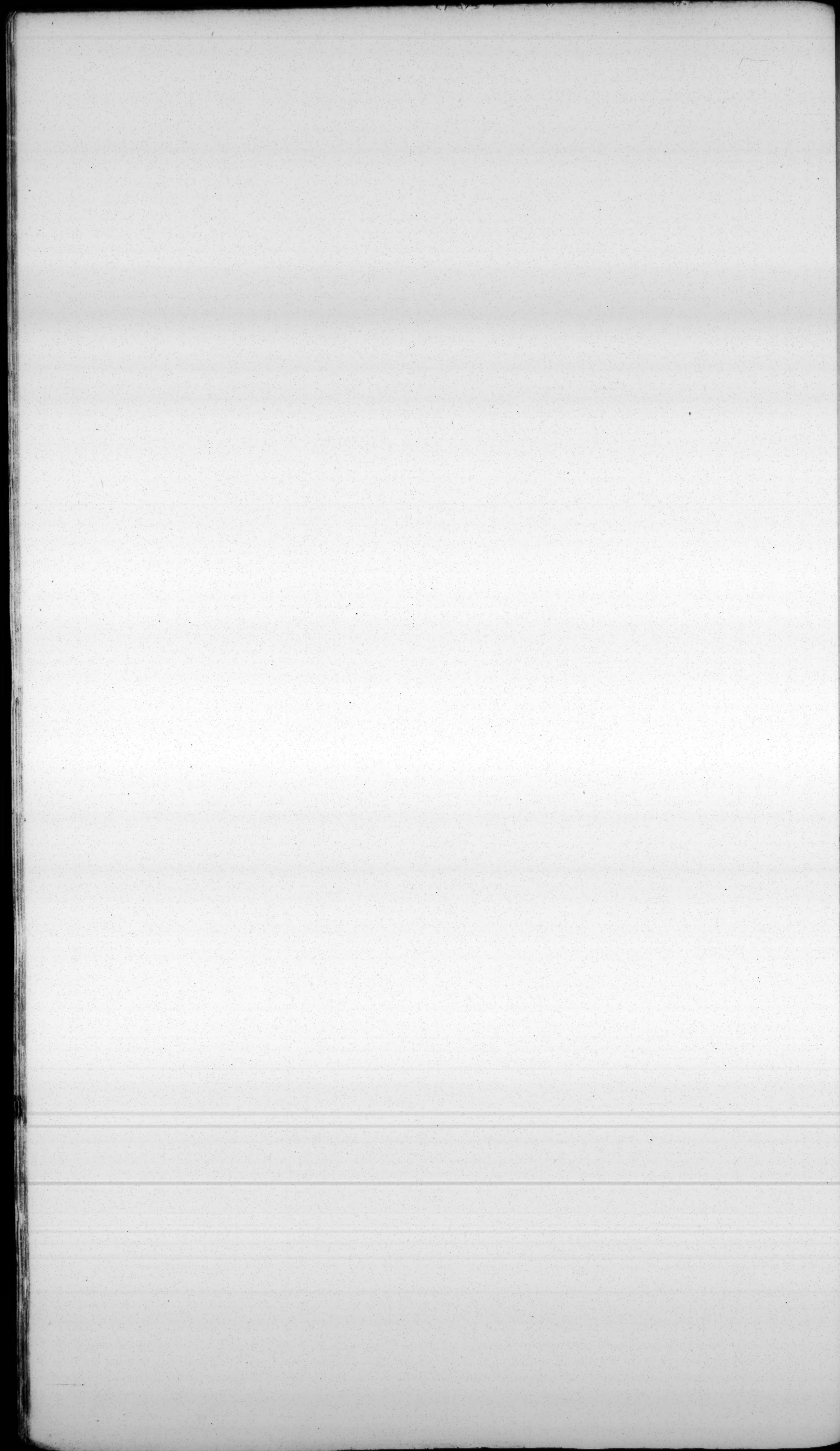
This aromatic and ornamental plant, grows wild on dry chalky hills, and gravelly ground, in most parts of Great Britain, though sparingly in the vicinity of London.

It flowers in July and August.

The leaves and flowery tops of Origanum have an agreeable aromatic smell, and a pungent taste, warmer than that of the Garden Marjoram, and much resembling Thyme; with which they appear to agree in medicinal virtue. Infusions of them are sometimes drank as tea, in weakness of the stomach, disorders of the breast, for promoting perspiration, and the fluid secretions in general; they are sometimes used also in nervine and antirheumatic baths; and the powder of the dried herb as an errhine. Distilled with water, they yield a moderate quantity of a very acrid and penetrating essential oil, smelling strongly of the Origanum, but less agreeable than the herb itself: this oil is applied on a little cotton for easing the pains of carious teeth; and sometimes diluted and rubbed on the nostrils, or snuffed up the nose, for attenuating and evacuating mucous humours. *Lewis M. Med. p. 469.*

It dyes linen cloth of a reddish brown colour; for this purpose the linen is first macerated in alum water and dried; it is then soaked for two days in a decoction of the bark of the crab-tree; it is wrung out of this, boiled in a ley of ashes, and then suffered to boil in the decoction. *Haller hist. Helv. p. 102.*

According to LINNÆUS, it dyes woollen cloth also of a purple colour; is sometimes used as a succedaneum for tea, and added to beer to make it more quickly intoxicate, as likewise to prevent it from too quickly turning sour.







Thymus Terphyllanus.

THYMUS SERPYLLUM. COMMON WILD THYME.

THYMUS *Linnaei Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

Calycis bilabiati faux villis clausa.

Raii Syn. Gen. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

THYMUS *Serpyllum floribus capitatis, caulibus repentibus, foliis planis obtusis, basi ciliatis. Linnaei Syst Vegetab. p. 452.*

THYMUS foliis ovatis ad basin ciliatis. *Haller hist. n. 235.*

THYMUS *Serpyllum Scopoli Fl. Carniol. n. 736.*

SERPYLLUM vulgare minus. *Baubin Pin. 220.*

SERPYLLUM vulgare. *Gerard emac. 570.*

SERPYLLUM vulgare minus. *Parkinson 8. Raii Syn. p. 230, Common Mother of Thyme. Hudson Fl. Angl. p. 229.*

RADIX lignosa, fibrosa, fusca, perennis.

CAULES numerosi, quadrangulares, duriusculi, procumbentes, ramosi, ramis alternis.

FOLIA ovata, petiolata, integerrima, plerumque lævia, glandulis punctata, petiolis ciliatis, *fig. 1, 2.*

FLORES in summitatibus caulium verticillatim dispositi, et in capitulis subrotundis congesti.

CALYX: PERIANTHIUM monophyllum, tubulatum, striatum, fauce villis clauso, *fig. 9*, semibifidum in duo labia, labium superius latius, tridentatum, dentibus reflexis; inferius bifidum dentibus ciliatis, *fig. 3, 4, 5.*

COROLLA monopetala; TUBUS longitudine setarum calycis, labium superius reflexum, emarginatum, obtusum, inferius trifidum, longius, laciniis obtusis medio longiore, *fig. 6.*

STAMINA: FILAMENTA quatuor inæqualia; ANTHERÆ minimæ, *fig. 7.*

PISTILLUM: GERMEN quadripartitum; STYLUS Corolla longior, recurvatus; STIGMA bifidum, acutum, *fig. 8.*

SEMINA quatuor, parva, subrotunda, fusca, *fig. 10, 11.*

ROOT woody, fibrous, of a brown colour, and perennial.

STALKS numerous, square, hard, procumbent, and branched; the branches alternate.

LEAVES oval, standing on foot-stalks, entire at the edges, generally smooth, dotted with little glands; the foot-stalks furnished with long hairs, *fig. 1, 2.*

FLOWERS placed in whirls on the tops of the stalks, and forming small roundish heads.

CALYX: a PERIANTHIUM of one leaf, tubular, striated, the mouth closed up with hairs, *fig. 9*, divided into two lips; the uppermost having three teeth which bend back; the lowermost two, much longer, narrower, and edged with hairs, *fig. 3, 4, 5.*

COROLLA monopetalous: the TUBE the length of the Calyx; the upper lip turning back, notched in and blunt; the lowermost longer, divided into three segments, the segments obtuse, the middle one longest, *fig. 6.*

STAMINA: four FILAMENTS of unequal lengths: ANTHERÆ very minute, *fig. 7.*

PISTILLUM: GERMEN dividing into four parts; STYLE longer than the Corolla, and turning upwards; STIGMA bifid and pointed, *fig. 8.*

SEEDS four, small, roundish, of a brown colour, *fig. 10, 11.*

FEW Plants are subject to so many varieties as the *Wild Thyme*. In its most natural state, when found on dry exposed Downs, it is small and procumbent: when growing among Furze or other plants, which afford it shelter, it runs up with a slender stalk to a foot or more in height, and assumes an appearance which might puzzle the young Botanist. It differs also very much in the smoothness and hairiness of its leaves: and there is a singular variety of it, remarked by LINNÆUS, with woolly heads, (*Capitulis tomentosis*) which are the nidus of some Insect. We have seen whole banks covered with this turgid variety. The *Veronica Chamædrys*, *Glechoma hederacea*, *Valeriana Locusta*, and other plants, are frequently distorted, and appear under the same disguise from a similar cause.

On dry chalky Downs the *Wild Thyme* abounds all over England; flowering in July and August.

It has been a received opinion, that Thyme and other aromatic herbs, give a flavour to the flesh of Sheep that feed where these plants are found: but curious observers have remarked, that Sheep neither eat Thyme nor any other aromatic herb when they have a free choice of pasturage.*

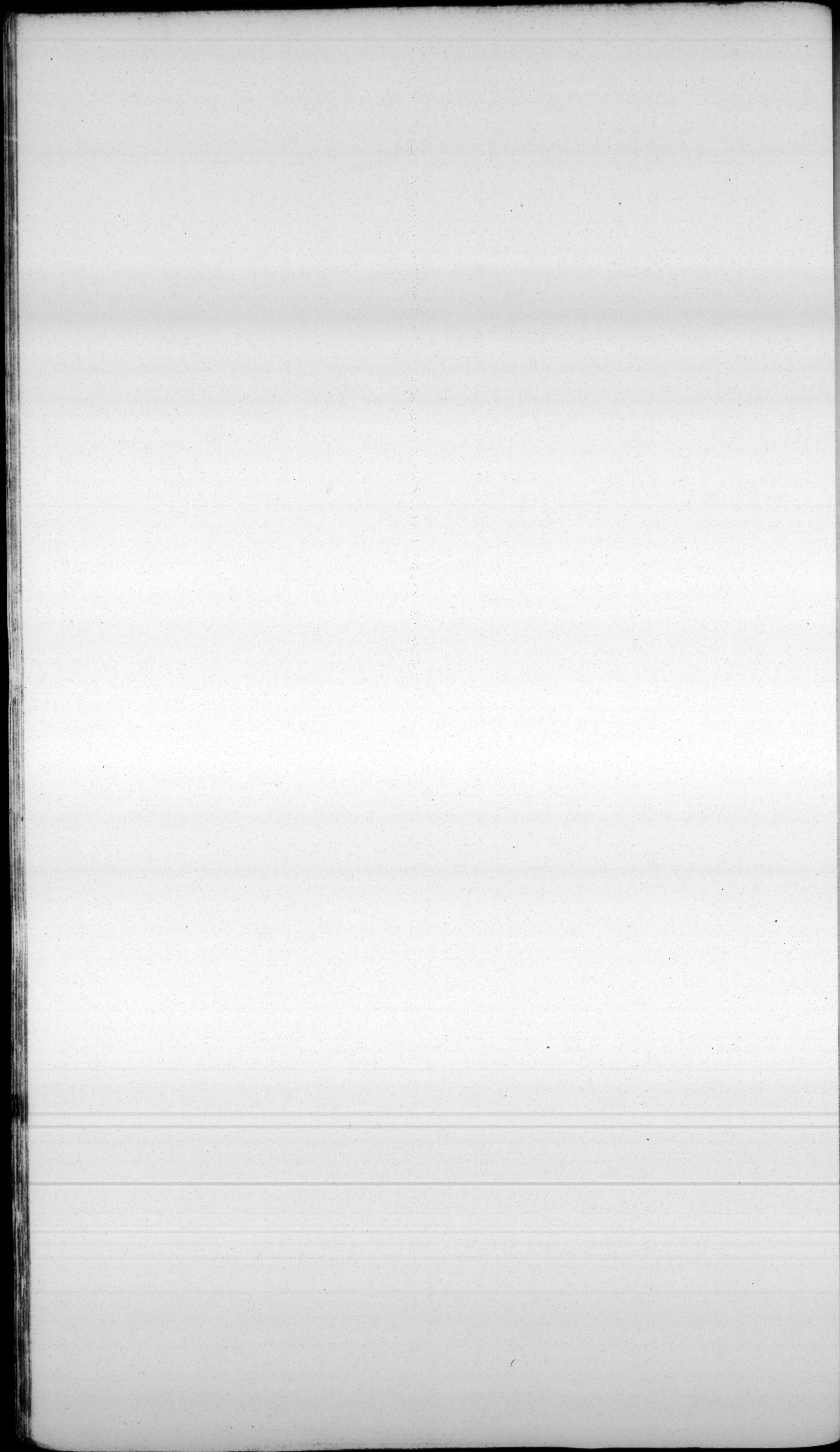
The Antients planted Thyme for the sake of their Bees, who collect Honey very largely from it; which at that period was of more value than at present: the cultivation of Sugar in the West India Islands, has contributed much to reduce its consequence in domestic œconomy.

THEOPHRASTUS relates, that *Thyme* produced no seed that could be discovered; but that the plant might be increased by sowing its flowers. PLINY copies this passage from THEOPHRASTUS; and instead of doubting the fact, remarks "*quid non tentavere homines?*" What experiments have not mankind tried? The credulity of the Antients is very wonderful! Whatever one Author advanced, the next took for granted, to the great detriment of natural history.—Investigation was never thought of!

Dr. ARMSTRONG, in his elegant and classical poem on health, recommends the soil where this plant (*Thyme or Marjoram*) abounds, as particularly healthful and proper for habitations.

————— "Mark where the dry Champaign
"Swells into chearful hills; where Marjoram
"And Thyme, the love of Bees, perfume the Air.
"There bid thy roofs, high on the basking steep
"Ascend: there light thy hospitable fires".

* See account of Sheep-walks in Spain, *Gent. Mag.* 1764.







Thymus acinus.

THYMUS ACINOS. BASIL THYME.

THYMUS *Linnaei Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

Calycis bilabiati faux villis clausa.

Raii Synop. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

THYMUS *Acinos* caulibus adscendentibus, foliis dentato-ferratis, calycibus basi ventricosus.

THYMUS *Acinos* floribus verticillatis, pedunculis unifloris caulibus erectis subramosis, foliis acutis; ferratis. *Linn. Syst. Vegetab. p.* 452. *Flor. Suecic. p.* 209.

CLINOPODIUM foliis ovatis acutis ferratis, flore foliis brevior. *Haller. hist. helv. n.* 237.

THYMUS *Acinos. Scopoli Fl. Carniol. p.* 426. *n.* 735.

CLINOPODIUM arvense ocimi facie. *Baubin. pin. p.* 225.

CLINOPODIUM minus sive vulgare. *Parkinson. 21.*

OCYMUM sylvestre. *Gerard. emac. 675.*

ACINOS multis. *Baubin. hist. 32. 259. Raii Syn. p.* 238. Wild Basil. *Hudson Fl. Angl. p.* 230.

RADIX annua, simplex, fibrosa.

CAULES adscendentes, semipedales, tetragoni, ramosi, hirsuti, purpurascens; RAMI cauli similes longi, patentes, imi oppositi.

FOLIA opposita, petiolata, ovato-acuta, medium interius petiolo proximum integrum, exterius mucroni proximum dentatum, margines paululum reflexi, ciliati, nervo medio venisque subtus hirsutis, superne vix hirsuta, impunctata, venis quam in serpyllo profundius exaratis.

FLORES pedunculati, verticillati, spicati, plerumque sex in singulo verticillo.

CALYX: PERIANTHIUM monophyllum, tubulatum, basi ventricosum, striatum, hirsutum, quinque-dentatum, dentibus tribus superioribus brevioribus, reflexis, inferioribus setaceis, fauce villis clauso, *fig. 1.*

COROLLA monopetala, tubulosa, purpurea, bilabiata, labium superius brevius, obtusum, reflexum, emarginatum, inferius trifidum, laciniis subrotundis, medio productiore subemarginato, *macula alba, lunulata, prominente, notata, fig. 3, 4, 5.*

STAMINA: FILAMENTA quatuor, quorum duo longiora, Corollâ breviora; ANTHERÆ parvæ, rubræ, *fig. 6.*

PISTILLUM: GERMEN quadripartitum; STYLUS filiformis longitudine Stamini; STIGMA bifidum, acutum, *fig. 7.*

PERICARPIUM nullum

SEMINA quatuor oblonga intra Calycem, *fig. 8, 9.*

ROOT annual, simple and fibrous.

STALKS adscending, about six inches high, square, branched, hirsute, purplish; BRANCHES like the stalk, long, spreading, the bottom ones opposite.

LEAVES opposite, standing on foot-stalks, of a pointed oval shape, the inner middle part of them next the foot-stalks entire, the outer middle part next the point indented, the edges turned a little back and ciliated, the midrib and veins on the under side of the leaf hirsute, the upper surface of the leaves scarcely hairy, without any dots, the veins deeper than in the common Wild Thyme.

FLOWERS growing on foot-stalks, in whirls, forming a spike, generally six in each whirl.

CALYX: a PERIANTHIUM of one leaf, tubular, bellying out at bottom, striated, hirsute, having five teeth, the three uppermost of which are shortest and turned back, the lower ones slender and tapering, the mouth closed up with short hairs, *fig. 1.*

COROLLA monopetalous, tubular, purple, having two lips, the uppermost of which is shortest, blunt, turned back, with a slight notch in it; the lowermost divided into three roundish segments, the middle one of which is longer than the others, very slightly notched in, and marked with a raised white semilunar spot, *fig. 3, 4, 5.*

STAMINA: four FILAMENTS, two long and two short, within the Corolla; ANTHERÆ small and red, *fig. 6.*

PISTILLUM: GERMEN divided into four parts; STYLE filiform, the length of the Stamina; STIGMA bifid and acute, *fig. 7.*

SEED-VESSEL none.

SEEDS. Four oblong seeds within the Calyx, *fig. 8, 9.*

As there are only two species of *Thyme* growing wild in this Kingdom, and those very different from each other, the young Botanist cannot be at a loss in distinguishing them; with the *Thymus alpinus*, (figured by that accurate Botanist JACQUIN, in his *Fl. Austriac*, who has contributed much to the advancement of botanic knowledge,) this plant has a much greater affinity, but may be distinguished by attending to the size of the flowers and the shape of the Calyx: the flowers of the *alpinus* are nearly twice as large as those of the *acinos*, and the Calyx of the latter has a protuberance at its base which we do not find either in the *alpinus* or *serpyllum*; a white circular mark in the mouth of the flowers, makes the blossoms of this species strikingly different from those of Wild Thyme.

The most common place of growth for this plant is in uncultivated fields, particularly where the soil is chalky, about *Charlton* it is found in abundance, flowering in July and August.

A variety with a white flower sometimes occurs.

The same agreeable aromatic flavour predominates in this species as in the Wild Thyme, whence it is probable that their virtues are very similar.







Helissa repens

MELISSA NEPETA. FIELD CALAMINT.

MELISSA. Linn. Gen. Pl. DIDYNAMIA GYMnosPERMIA.

Calyx aridus, supra planiusculus: labio superiore subfastigiato. *Corollæ* labium superius subforficatum, bifidum, lab. inf. lobo medio cordato.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

MELISSA *Nepeta* pedunculis axillaribus dichotomis folio longioribus, caule adscendente hirsuto. Linn. Syst. Veg. p. 542. Spec. Pl. p. 828.

MELISSA foliis hirsutis ovatis acuminatis, leniter ferratis, petiolis ramosis, folia superantibus. Hall. Hist. n. 240.

CALAMINTHA Pulegii odore *f. Nepeta*. Baub. Pin. 228.

CALAMINTHA odore Pulegii. Gerard. emac. 687.

CALAMINTHA altera odore Pulegii, foliis maculosis. Parkinsf. 36. Raii Syn. p. 243. Field Calamint. Hudson Fl. Angl. p. 264.

RADIX perennis, subobliqua, teres, flexuosa, lignosa, fusca.

CAULIS lignosus, mox supra basin divisus in ramos elongatos, pedales ad bipedales, ascendentes, obsolete tetragonos, inferne rufescentes, pilis mollibus, horizontalibus obfitos.

FOLIA opposita, remotiuscula, breve petiolata, vix pollicaria, patentissima, subcarinata, apice reflexa, late ovata, fere cordata, obtusiuscula, ferrata, margine revoluta, subundulata, venoso-rugosa, mollia, utrinque villosa, pallide viridia.

FLORES verticillati, pallide cœrulei, ante explicationem flavescentes, odoris uti tota planta aromatici.

VERTICILLI dimidiati, foliis altiores, pauciflori.

BRACTEÆ paucæ, parvæ, subulatæ.

PEDUNCULI communes duo, axillares, dichotomoramosi, 4-6 flori. Pedicelli inæquales, erecti.

CALYX: PERIANTHIUM monophyllum, tubulatum, persistens, quindecimstriatum, pilosiusculum, quinquedentatum, dentibus acuminatis, utrinque hirsutis, inferioribus duobus longioribus, angustioribus. Striæ dentefque fusco-purpurascens, fig. 1.

COROLLA monopetalâ, ringens, calyce longior, pilosiuscula. TUBUS cylindraceus, albidus. FAUX dehiscens, barbata. LABIUM superius brevius, erectiusculum, profunde emarginatum, subcordatum, dorso plicatum: inferius trifidum, undulatum, lacinia media majori, fig. 2.

STAMINA: FILAMENTA quatuor, teretia, albida, corolla breviora, duo breviora. ANTHERÆ biloculares, violaceæ. POLLEN album, fig. 3.

PISTILLUM: GERMEN quadrifidum, basi glandula nectarifera fulvente cinctum. STYLUS filiformis, purpurascens, corollæ longitudine, cum staminibus sub labio superiore corollæ inclinatus. STIGMA tenue, bifidum, reflexum, fig. 4.

PERICARPIUM nullum. Calyx immutatus in sinu femina fovens.

SEMINA quatuor, ovata.

ROOT perennial, somewhat oblique, crooked, round, woody, brown.

STALK woody, divided just above the base into branches, which are from one to two feet in length, ascending, faintly quadrangular, reddish towards the base, beset with soft, horizontal hairs.

LEAVES opposite, rather remote, sitting on short footstalks, scarcely an inch long, spreading, slightly keel'd, reflexed at the point, of a broad ovate, almost heart-shaped figure, bluntish, ferrated, the margin rolled back, and slightly waved, wrinkled, soft, villous on both sides, of a pale green colour.

FLOWERS placed in whorls, pale blue, before they expand yellowish, possessing like the whole plant a pleasant aromatic smell.

WHORLS growing in halves, longer than the leaves, few-flowered.

BRACTEÆ few, small, awl-shaped.

COMMON PEDUNCLES two out of the alæ of the leaves, branched, bearing four or six flowers. Partial Peduncles unequal, upright.

CALYX: a monophyllous PERIANTHIUM, tubular, permanent, slightly hairy, with fifteen striæ, and five teeth, which are acuminated, on both edges hairy, the two inferior ones longer and narrower. The striæ and teeth of a brown purplish colour, fig. 1.

COROLLA monopetalous, gaping, longer than the calyx, slightly hairy. The TUBE cylindrical, whitish. Mouth of the tube bearded. The UPPER LIP shorter, almost upright, deeply emarginated, nearly obcordate, at the back folded. The UNDER LIP trifid, waved, the middle segment larger than the others.

STAMINA: four round whitish FILAMENTS shorter than the corolla, two of them shorter than the rest. ANTHERÆ bilocular, violet-coloured. POLLEN white, fig. 3.

PISTILLUM: GERMEN quadrifid, at the base surrounded with a nectariferous, orange-coloured GLANDULE. STYLE thread-shaped, purplish, the length of the corolla, turned in along with the stamina, under the upper lip of the corolla. STIGMA slender, bifid, reflexed, fig. 4.

PERICARPIUM none. The calyx unaltered contains the seeds.

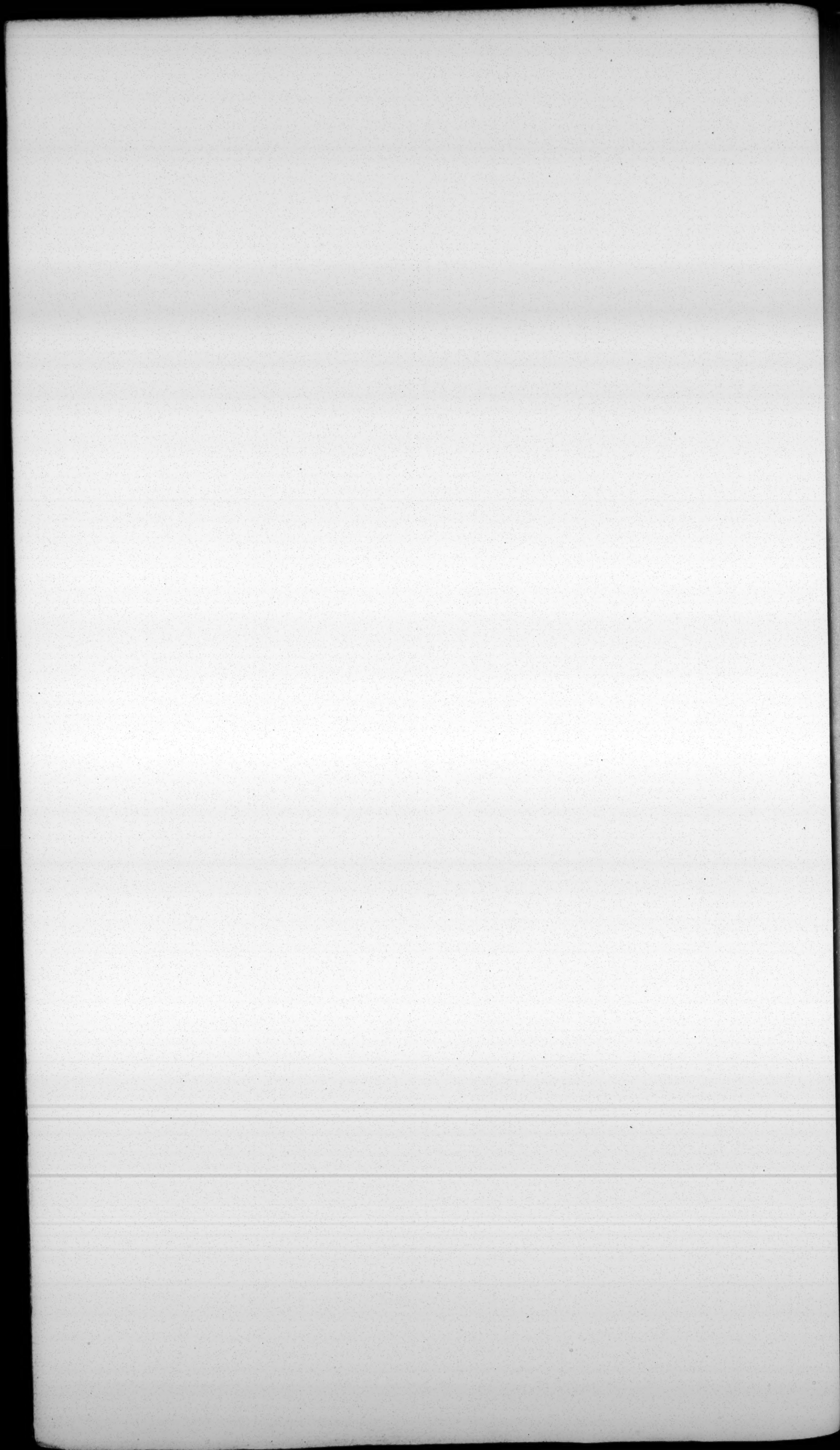
SEEDS: four, ovate.

This species of *Melissa* affects dry, chalky soils, and is frequent in many parts of Kent by road sides, and in uncultivated places; we find it in tolerable abundance in the old sand-pits at the back of Charlton church, where it flowers in July, August, and September.

Students are apt to mistake it for the *Melissa Calamintha*, from which it differs essentially in many respects, which we shall particularize when that plant comes to be figured.

It is worthy of notice on account of its fragrance; it is moreover a medicinal plant.

The whole herb has a strong aromatic smell, approaching to that of Pennyroyal, and a moderately pungent taste, somewhat like that of Spearmint, but warmer; in virtue it appears to be nearly similar to a mixture of these herbs; infusions of the leaves are drank as tea in weaknesses of the stomach, flatulent cholics, and uterine obstructions. Lewis's Mat. Med. ed. Aik. p. 172.







Melittis
Melisophyllum

MELITTIS MELISSOPHYLLUM. BASTARD-BALM.

MELITTIS. Linn. Gen. Pl. DIDYNAMIA GYMnosPERMIA.

Calyx tubo corollæ amplior. *Corollæ* labium superius planum; labium inferius crenatum. *Antheræ* cruciatæ.

Raii Syn. Gen. 24. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

MELITTIS *Melissophyllum*. Linn. *Sp. Pl. ed.* 3. p. 832. *Syst. Vegetab. ed.* 14. Murr. p. 544. Scop. *Carn. ed.* 2. p. 421. Hudf. *Fl. Angl. ed.* 2. p. 264. Common Bastard-Balm. Jacq. *Fl. Austr. v.* 1. p. 18. tab. 26.

MELISSOPHYLLUM. Hall. *Hist. n.* 244.

LAMIUM montanum *Melissæ* folio. Baub. *Pin.* p. 231.

MELISSA Fuchii. Hort. *Exst. vern. Ord.* 6. fol. 7. f. 3. flore albo et flore purpureo. Bastard Baume with white and with purple flowers. Ger. *emac.* p. 690. f. 3. 3. Baulm-leav'd Archangel, Bastard-Baulm. *Raii Syn. ed.* 3. p. 242.

MELISSOPHYLLUM Fuchii. Unpleasant Baulme. Park. *Tb.* p. 41. f. 4.

LAMIUM pannonicum versicolore flore. Clus. *var. pl.* p. xxxvij.

RADIX perennis, fibrosa.

CAULES sesquipedales et ultra, erecti, tetragoni, hirsuti, ad basin ramis paucis instructi.

FOLIA opposita, petiolata, ovata, subacuta, inaequaliter et obtusiuscule serrata, villosiuscula, rugosa, petioli canaliculati, hirsuti, basi connati.

FLORES magni, speciosi, odorati, pedunculati, verticillati, subssecundi, verticillis dimidiatis, subsexflores.

PEDUNCULI teretes, hirsutuli, longitudine petiorum.

CALYX: PERIANTHIUM monophyllum, inflato-ventricosum, bilabiatum, venosum, glabrum, venis hirsutulis, divisuris labiorum perquam inconstantibus, fig. 1.

COROLLA monopetala, ringens, villosula, alba; *Tubus* calyce longior, multoque angustior, *Labium* superius erectum, subrotundum, integrum, inferius trifidum, laciniis obtusis, intermedia majori, subrotundo, purpureo, margine crenulato, albo, fig. 2.

STAMINA: FILAMENTA 4, alba, villosa, corolla breviora; ANTHERÆ flavescentes, fig. 3.

PISTILLUM: GERMEN obtusum, quadrifidum, villosum; STYLUS filiformis, longitudine flaminum; STIGMA, bifidum, acutum, fig. 4.

SEMINA 4 in fundo calycis, nigricantia, fig. 5.

♂ ROOT perennial, fibrous.

STALKS a foot and a half high, or more, upright, square, strongly hair'd, furnished at the base with a few branches.

LEAVES opposite, standing on footstalks, ovate, somewhat pointed, unevenly and bluntly serrated, slightly villous, wrinkled, footstalks concave above, hirsute, united at the base.

FLOWERS large, shewy, odoriferous, standing on footstalks, growing chiefly to one side, in half whorls about six flowers together.

FLOWER-STALKS round, somewhat hairy, the length of the leaf-stalks.

CALYX: a PERIANTHIUM of one leaf, somewhat inflated and bellying out, two-lip'd, veiny, smooth, except the veins which are somewhat hairy, the divisions of the lips altogether inconstant, fig. 1.

COROLLA monopetalous, ringent, slightly villous, white; *Tube* longer than the calyx and much narrower, upper lip erect, roundish, entire, lower lip trifid, segments obtuse, the middle one largest, purple, the margin finely notched, and white, fig. 2.

STAMINA: four FILAMENTS, white, villous, shorter than the corolla; ANTHERÆ yellowish, fig. 3.

PISTILLUM: GERMEN obtuse, quadrifid, villous; STYLE filiform, the length of the stamina; STIGMA bifid and pointed, fig. 4.

SEEDS four, in the bottom of the calyx, of a blackish colour, fig. 5.

The *Melittis Melissophyllum*, a plant common to many parts of Europe, has hitherto been discovered in the more western parts of this kingdom only, particularly Pembroke-shire, Devonshire, and Hampshire, in some of which counties it grows in great abundance; Dr. WARELL has observed it in various places about Barnstable: in his company, I gathered it at the foot of a hedge by the road side near the hospitable mansion of — CHICHESTER, Esq. of Hall, about two miles from that town. It is most commonly found in woods, or situations somewhat shady.

It was not probable that a plant of such singular beauty should be suffered to blossom in its native woods, unseen; accordingly, we now find it in most of our nurseries, and gardens of the curious, yet not so generally as it merits. Most authors describe the *Melittis* as having an unpleasant smell; the fresh herb when bruised partakes of the agreeable scent of Balm, and the disagreeable smell of stinking Horehound; dried, it loses the unpleasant part, and becomes delightfully fragrant; the flowers when they first open have appeared to us to be sweetly odoriferous, we say appeared to us, because as they are not described as such, others may not have found them so, for we have observed an unaccountable variation in the perceptibility of smells in different persons, we know several who can discover no scent in the flowers of the Persian Iris; the general acuteness of whose olfactories cannot be called in question.

CLUSIUS observed this plant in its wild state with white flowers; he mentions also a variety of it in all respects smaller; whether this be a variety differing as we have observed the *Melissa grandiflora* to do, or whether it be a species, we must leave to the determination of others: in the Apothecaries garden at Chelsea, we have seen a *Melittis* answering to CLUSIUS's description, the flowers of which were not more than half the size of the Devonshire one, of a pale red colour, corresponding more with JACQUIN's figure, the blossoms of which are not so large as those of our plant.

From a gland which encircles the base of the germen there is much honey secreted; hence the plant accords with its name *Melittis*, hence it becomes the resort of bees.

The cruciform appearance of the *Antheræ* ought not to form any part of the generic character, being, as Professor JACQUIN has observed, common to many of the didynamous plants.

There is no difficulty attends the cultivation of this charming hardy perennial; planted in almost any soil, provided it be moderately moist and somewhat shady, it will flourish; it increases by roots and seeds, and may be readily propagated by parting the one or sowing the other in autumn.







Prunella vulgaris

PRUNELLA VULGARIS.

SELF-HEAL.

PRUNELLA *Lin. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Filamenta bifurca: altero apice antherifero. Stigma bifidum.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

PRUNELLA *vulgaris* foliis omnibus ovato-oblongis ferratis petiolatis. *Lin. Syst. Vegetab. p. 458. Sp. Pl. 837. Fl. Suec. 540.*

BRUNELLA foliis ovatis oblongis calycibus superne truncatis. *Haller. Hist. n. 277.*

BRUNELLA *vulgaris. Scopoli Fl. Carn. 715.*

PRUNELLA major folio non dissecto. *Bauh. pin. 260.*

PRUNELLA *Gerard. emac. 631.*

PRUNELLA *vulgaris. Parkins. 1680. Raii Syn. p. 238. Common Self-heal. Hudson. Fl. Angl. ed. 2. p. 264. Lightfoot Flor. Scot. p. 321.*

RADIX annua, fibrosissima.

CAULIS dodrantalis, pedalis et ultra, erectus, ad basin usque ramosus, geniculatus, geniculis inferioribus radican- tibus, subquadratus, utrinque canaliculatus, hirsutus, purpurascens.

RAMI cauli similes, adscendentes, alterne oppositi, inferioribus longioribus.

FOLIA opposita, petiolata, ovata, plana, patentia, punctis prominulis scabriuscula, obsolete dentata potius quam ferrata.

PETIOLI superne canaliculati, marginibus hirsutis.

SPICÆ terminales, sessiles, subcylindricæ, pollicares, truncatæ, e floribus verticillatis breviter pedicellatis et bractæis constantes.

BRACTEÆ cordatæ, latæ, acuminatæ, subdiaphanæ, venosæ, ciliatæ, subtus hirsutæ, supra glabræ.

VERTICILLI sexflori.

CALYX: PERIANTHIUM tubulatum, bractæis paulo longius, biangulatum, supra glabrum, trinerveum, subtus striatum, angulis ciliatis, bilabiatum; labio superiore depresso-plano, truncato, crenato, minutim tridentato, lateribus planis, inferiore angustiore, bifido, laciniis acuminatis. *fig. 1.*

COROLLA violacea, caduca, monopetala, ringens, pars tubulosa calyce paulo longior, labium superius concavum, integrum, superne villosum, inferius trifidum, laciniis lateralibus integris, deflexis, intermedia erecta, rotundata, denticulata. *fig. 2.*

STAMINA: FILAMENTA quatuor, subulata, violacea, bifurca, quorum duo breviora; ANTHERÆ bilobæ, lobis divergentibus, furcâ interiore infidentes. *fig. 3.*

PISTILLUM: GERMEN quadripartitum, glandulâ crenatâ cinctum; STYLUS filiformis, longitudine staminum; STIGMA bifidum, acutum. *fig. 4, 5, 6, 7.*

SEMINA quatuor, ovata, parva, obtuse angulata, glabra, fusca, mucrone albo terminata. *fig. 8.*

ROOT annual, and exceedingly fibrous.

STALK from half a foot, to a foot or more in height, upright, branched quite down to the bottom, jointed, the lowermost joints sending down roots, somewhat square, with a deep groove on each side, rough and purplish.

BRANCHES like the stalk, bending upward, alternately opposite, the lower ones longest.

LEAVES opposite, standing on footstalks, ovate, flat, spreading, rough with little prominent points, faintly indented on the edge, rather than sawed.

LEAF-STALKS hollow above, and hairy on the edges.

SPIKES terminal, sessile, somewhat cylindrical, about an inch in length, as if cut off at top, composed of floral leaves and flowers standing on short footstalks.

FLORAL-LEAVES heartshaped, broad and pointed, somewhat transparent, veiny, edged with hairs, hirsute on the under side, smooth and shining above.

WHIRLS six flowers in each.

CALYX: a tubular PERIANTHIUM, somewhat longer than the floral-leaves, angular on each side, smooth above, with three faint ribs, striated below, the angles edged with hairs, composed of two lips, the uppermost of which is flat, and somewhat depressed, cut off at top, terminated by three small teeth, the sides flat, the lower lip narrower, bifid, the segments long and pointed. *fig. 1.*

COROLLA of a violet colour, easily falling, monopetalous and ringent, the tubular part a little longer than the calyx, the upper lip hollow, entire, and villous above, the lower lip divided into three segments, of which the side-ones are entire and bend downward, the middle one upright, round, and finely toothed. *fig. 2.*

STAMINA: four FILAMENTS, tapering, of a violet colour, forked at top, of which two are longer than the others; ANTHERÆ composed of two lobes, which diverge and sit on the inner fork. *fig. 3.*

PISTILLUM: GERMEN divided into four parts, surrounded by a notched gland; STYLE filiform, the length of the stamina; STIGMA bifid and pointed. *fig. 4, 5, 6, 7.*

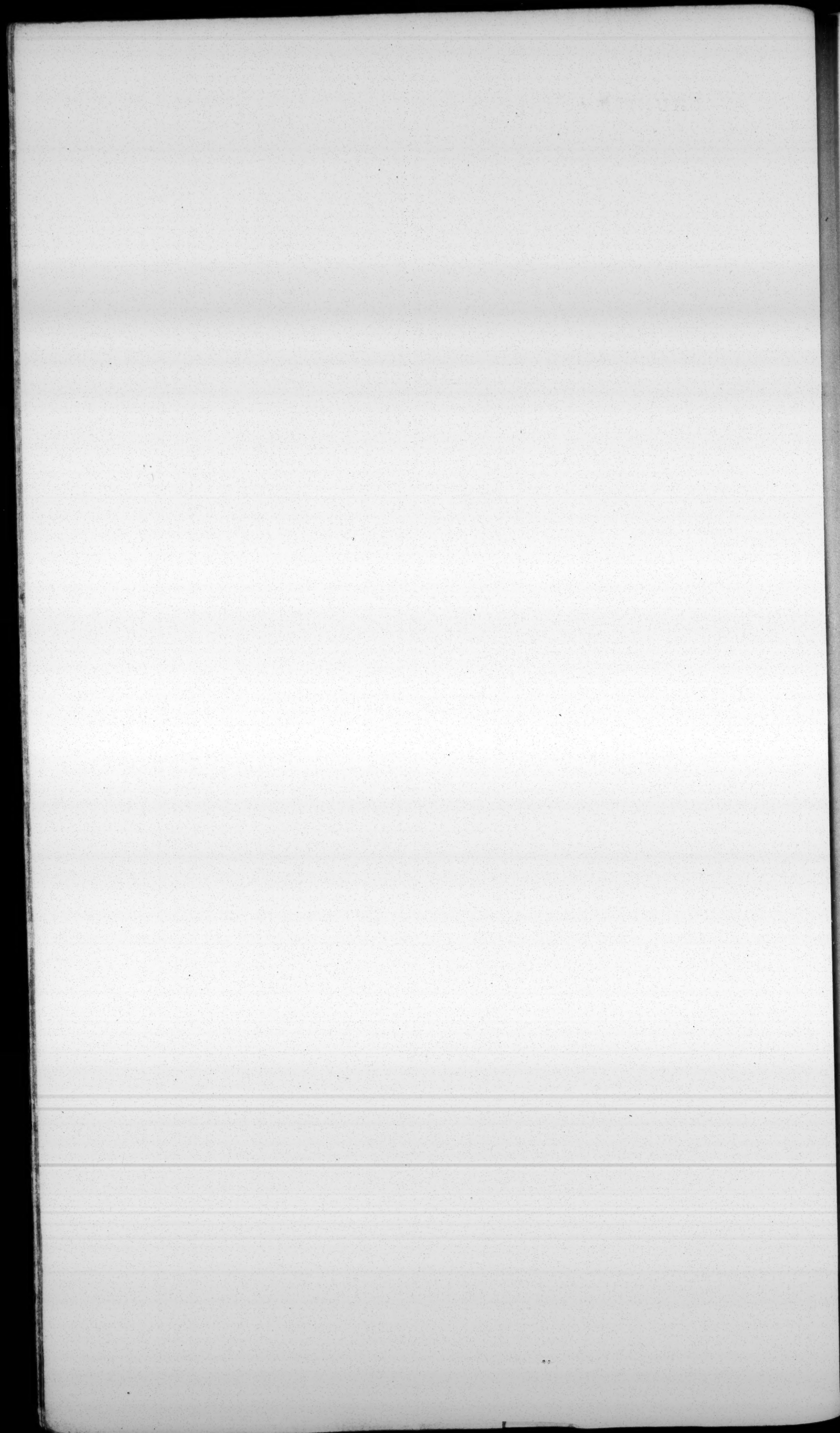
SEEDS four, ovate, small, obtusely angular, smooth, brown, and terminated by a white point. *fig. 8.*

In many of the natural classes of plants, the several genera approximate so much, that it is difficult to find out a character which shall obviously distinguish them; such a character is however afforded in the present plant. If the filaments are examined, each of them will be found forked at the extremity, and the anthera sustained on the innermost division of the fork; besides this curious and uncommon structure, the middle segment of the lower lip is finely toothed. This is noticed by *TOURNEFORT* in his figures of this genus, but the former wholly omitted. It did not however escape the penetrating *LINNÆUS*, who considers it as the essential character of the *Prunella*; nor is the calyx in this plant undeserving of our attention, whether we consider its structure, or the singular manner in which it closes up to preserve the seeds.

The *Self-heal* has an herbaceous roughish taste, and hence stands recommended in alvine fluxes; it has been principally celebrated as a vulnerary, whence its name, and in gargarisms for apthæ, and inflammations of the fauces. *Lewis's Disp. p. 205.*

It grows very commonly in meadows and pastures, and flowers in June and July. Its blossoms, which are usually of a violet colour, are sometimes found white, and sometimes red.

According to *LINNÆUS*'s experiments, kine, goats, and sheep, eat it; but horses refuse it.







Scutellaria galericulata

Sanson. Sculp.

SCUTELLARIA galericulata. Common HOODED WILLOW-HERB.

SCUTELLARIA *Lin. Gen. Pl. DIDYNAMIA GYMnospermia. Calyx ore integro: post floréscéntiam clauso, operculato.*

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

SCUTELLARIA *galericulata* foliis cordato-lanceolatis crenatis, floribus axillaribus. *Lin. Syst. Vegetab. p. 457. Sp. Pl. 835. Fl. Suecic. n. 538.*

CASSIDA foliis oblonge cordatis crenatis verticillis nudis bifloris. *Haller Hist. 280.*

CASSIDA *galericulata. Scopoli Fl. Carniol. 74.*

LYSIMACHIA cærulea galericulata, feu Gratiola cærulea. *Baub. pin. 246.*

LYSIMACHIA galericulata. *Gerard. emac. 477.*

GRATIOLA cærulea, f. latifolia major. *Park. 221.*

CASSIDA palustris vulgatioꝝ flore cæruleo. *Raii Syn. p. 244. Hooded Willow-herb.*

Hudson. Fl. Angl. p. 265.

Lightfoot Fl. Scot. 320.

RADIX perennis, tenuis, geniculata, alba, repens.
CAULES pedales aut bipedales, erecti, quadrati, lateribus concaviusculis, bilineatis, geniculati, rigiduli, ramosi, ramis oppositis, suberectis.

FOLIA oblongo-cordata, obtusiuscula, inæqualiter crenata, superiora acuta.

BRACTEÆ duæ, minimæ, setaceæ, ad basin pedunculi.

FLORES bini, secundi, cærulei, villosi, subtus albid.

CALYX: PERIANTHIUM monophyllum, brevissimum, tubulatum: ore truncato, squamula incumbente operculi instar clausilis. *fig. 1.*

COROLLA monopetala, ringens. *Tubus* brevissimus, retrorsum flexus. *Faux* longa, compressa. *Labium superius* concavum, trifidum: *lacinula media* concava, emarginata; *lateralibus* planis, acutiusculis, intermediæ subjectis. *Labium inferius* latius, emarginatum, *fig. 2.*

STAMINA: FILAMENTA quatuor alba, medio crassiora et ad unum latus villosula, duo breviora: ANTHERÆ parvæ, luteæ. *fig. 3.*

PISTILLUM: GERMEN quadripartitum; STYLUS superne paululum incrassatus, STIGMA simplex, incurvatum, acuminatum. *fig. 4. 5. 6.*

PERICARPIUM nullum, *Calyx* bipartibilis, operculo clausus, capsulæ vicem gerens.

SEMINA 1 ad 4 subrotunda, pallide fusca, superficie scabra. *fig. 9. 10.*

RECEPTACULUM seminum subrotundum. *fig. 8.*

ROOT perennial, slender, jointed, white and creeping.
STALKS from one to two feet high, upright, square, the sides a little hollow'd and mark'd with two lines, jointed, stiffish, branched, the branches opposite and nearly upright.

LEAVES of an oblong heart shape, somewhat blunt, standing on footstalks, rather wrinkly and unequally crenated, those on the top of the plant pointed.

FLORAL-LEAVES two, very small and setaceous, at the base of the flower stalk.

FLOWERS growing in pairs, one way, of a blue colour, downy, and whitish underneath.

CALYX: a PERIANTHIUM of one leaf, very short, and tubular; the mouth as if cut off, having a scale on it which seems to do the office of a lid. *fig. 1.*

COROLLA monopetalous and ringent. *Tube* very short and bent backwards. *Throat* long, compressed. *upper Lip* hollow, and trifid, the *middle segment* hollow and nicked; the *side ones* flat, pointed and placed under the middle one, *Lower Lip* broad and nicked. *fig. 2.*

STAMINA: four white FILAMENTS, thickest in the middle and a little villous on one side, two shorter than the others; ANTHERÆ small and yellow. *fig. 3.*

PISTILLUM: GERMEN divided into four parts, STYLE towards the top a little thickend; STIGMA simple, hooked and pointed. *fig. 4. 5. 6.*

SEED-VESSEL: none, the *Calyx* which splits into two parts, being closed by its lid answers the purpose of a capsule.

SEEDS from one to four, roundish, of a pale brown colour, with a roughish surface. *fig. 9. 10.*

RECEPTACLE of the seeds roundish. *fig. 8.*

BOTANY would certainly please more in the study of it, were the Genera as in the present instance distinctly characterized, the singular and curious construction of the Calyx in this genus is very deserving of a minute attention.

This species of Scutellaria grows commonly on the edges of rivers and ponds, and flowers in June, July and August.

It has a very encreasing root, and hence should cautiously be introduced into the Garden.

HALLER attributes to it the smell of Garlick which it scarcely merits.







Scutellaria minor.

SCUTELLARIA MINOR. SMALL HOODED- WILLOW HERB.

SCUTELLARIA *Lin. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

Calyx ore integro: post florescentiam clauso, operculato.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

SCUTELLARIA *minor* foliis cordato-ovatis subintegerrimis, floribus axillaribus. *Lin. Syst. Vegetab. p. 457. Sp. Plant. p. 835.*

CASSIDA palustris minima flore purpurascens. *Tourn. Hist. p. 410.*

LYSIMACHIA galericulata minor. *Raii Hist. 572. Syn. 244.* The lesser-hooded Loofestriſe.

GRATIOLA latifolia. *Gerard. emac. 585.*

GRATIOLA latifolia seu nostras minor *Parkins. 221. Hudson. Fl. Angl. ed. 2. p. 265. Lightfoot Fl. Scot. p. 320.*

RADIX perennis, repens, alba.

CAULIS erectus, palmaris, sesquipalmaris, et ultra, simplex, seu ramosus, in horto ramosissimus evadit, tetragonus, rigidulus, subhirsutus, basi purpurascens.

FOLIA opposita, subsecunda, brevissime petiolata, cordato-ovata, obtusa, subintegerrima, in opacis glabra, in apricis hirsuta, et subinde rubentia.

FLORES parvi, carnei, axillares, bini, pedunculati, pedunculis calyce longioribus.

CALYX: PERIANTHIUM monophyllum, brevissimum, hirsutum, ore bilabiato, integro, squamula incumbente operculi instar clausili. *fig. 1.*

COROLLA monopetala, ringens, labium superius trifidum, superne villosum, laciniis subæqualibus, intermedia concavâ emarginatâ, lateralibus remotiusculis, nec intermediae subjectis sicut in galericulata. *fig. 2.* inferius latius, emarginatum, punctis et lineolis rubris pulchre variegatum. *fig. 3.*

STAMINA: FILAMENTA quatuor, alba, sub labio superiore recondita, quorum duo longiora. ANTHERÆ minimæ, albæ, ad lentem hirsutulæ. *fig. 4.*

PISTILLUM: GERMEN quadripartitum. STYLUS albus, longitudine staminum, superne paululum incrassatus. STIGMA simplex, incurvatum, acuminatum. *fig. 5.*

PERICARPIUM nullum, calyx continens

SEMINA quatuor, subrotunda, ad lentem aspera. *fig. 6.*

NECTARIUM glandula aurantiaca ad basin germinis. *fig. 7.*

ROOT perennial, creeping, and white.

STALK upright, a hand's breadth, six inches, or more in height, simple or branched, in the garden becoming very much so, four-cornered, somewhat rigid and hirsute, purplish at the base.

LEAVES opposite, with a tendency to grow one way, standing on very short foot-stalks, heart-shaped, ovate, obtuse, almost entire on the edges, in shady situations smooth, in exposed ones hirsute, and sometimes reddish.

FLOWERS small, of a pale red colour, growing by pairs in the axæ of the leaves, standing on foot-stalks longer than the calyx.

CALYX: a PERIANTHIUM of one leaf, very short, hirsute, the mouth composed of two lips and entire, with a small scale like a lid resting on it. *fig. 1.*

COROLLA monopetalous, and ringent, the upper lip trifid, and villous above, the segments nearly equal, the intermediate one hollow and nicked, the side ones somewhat distant from each other, not placed under the intermediate one as in the galericulata. *fig. 2.* the lower lip broader, with a single notch, and prettily variegated with red lines and dots. *fig. 3.*

STAMINA: four FILAMENTS, of a white colour, hid under the upper lip, two of which are longer than the other two. ANTHERÆ very minute, white, and slightly hirsute, when magnified. *fig. 4.*

PISTILLUM: GERMEN divided into four parts. STYLE white, the length of the stamens, thickened a little above. STIGMA simple, a little hooked, and pointed. *fig. 5.*

SEED-VESSEL none, the calyx containing four seeds. SEEDS of a roundish shape, appearing rough when magnified. *fig. 6.*

NECTARY: an orange-coloured gland at the base of the germen. *fig. 7.*

GERARD, our countryman, appears to have been the discoverer of this species, to which he gives the names of *Gratiola latifolia*. PARKINSON, who considered it as a plant peculiar to this country, adds to them the epithet of *nostras*. TOURNEFORT, afterwards enumerating the plants growing about Paris, mentions it as growing with them in several places; nevertheless it is not common throughout Europe. Indeed LINNÆUS, in his *Species Plantarum*, expressly says, *habitat in Anglia*. GERARD's referring a plant to another genus, so obviously similar in its parts of fructification to what was then called *Lyfimachia galericulata* shews, that little attention was paid to those parts at that time; nor was he very fortunate in applying to the leaves of so small a plant the name of *latifolia*.

Had LINNÆUS frequently seen and cultivated this plant, as we have had opportunity of doing, he would have expressed no doubt of its being too nearly related to the *galericulata* and *basifolia*. Vid. *Spec. Plant.*

In the time of old GERARD, this species was found on *Hampstead Heath*, and on some of the boggy parts of that Heath it still exists; but is more plentifully met with in similar situations, on *Putney* and *Shirley Commons*.

It flowers in July, August, and September. On *Shirley Common* we have seen it much larger than the specimen figured; and this summer found a single plant which had blue flowers.

Scutellaria - Small Wood
Fillet 1 lb.



*Orobanche**major.*

OROBANCHE MAJOR. COMMON BROOM-RAPE.

OROBANCHE *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Cal. bifidus. Cor. ringens. Caps. unilocularis, bivalvis, polysperma: Glandula sub basi germinis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

OROBANCHE *major* caule simplicissimo pubescente, flaminibus subexsertis. *Lin. Syst. Vegetab. p. 497. Spec. Pl. p. 882. Fl. Suec. n. 561.*

OROBANCHE caule simplici, stipula unica, calyce quadrifido. *Haller. Hist. 295.*

OROBANCHE *major. Scopoli Fl. Carn. n. 782.*

OROBANCHE *major* Garyophyllum olens. *Baub. pin. 87.*

RAPUM Genistæ *Ger. emac. 1311. Parkinsf. 229. Raii Syn. p. 288. Broom-rape. Hudson. Fl. Angl. ed. 2. p. 266. Lightfoot Flor. Scot. p. 332.*

RADIX Spartii scoparii radicibus plerumque adnascitur.	ROOT generally grows to the roots of the common Broom.
CAULIS pedalis ad sesquipedalem, erectus, simplex, fistulosus, teretiusculus, sulcato-striatus, villosus, purpurascens, squamis sparsis, marcidis, tectus, ad basin bulbosus, bulbo squamoso.	STALK from a foot to a foot and a half in height, upright, simple, hollow, roundish, somewhat channeled, villous, of a purplish colour, covered with withered squamæ, bulbous at bottom, the bulb squamous.
FLORES spicati, sessiles, purpurascens plerumque, aliquando etiam flavescentes, spica primo acuta, dein subcylindrica.	FLOWERS growing in spikes, sessile, for the most part purplish, sometimes also yellowish, the spike is at first pointed, and then becomes cylindrical.
CALYX: PERIANTHIUM monophyllum, erectum, quadrifidum, postice ad basin usque divisum, et antice magis profunde quam ad latera, villosum, albescens, laciniis seu dentibus subæqualibus, ferrugineis. <i>fig. 1.</i>	CALYX: a PERIANTHIUM of one leaf, upright, divided into four segments, posteriorly quite down to the base, and anteriorly more deeply than at the sides; villous, whitish, the segments or teeth nearly equal, and ferruginous. <i>fig. 1.</i>
COROLLA: monopetala, ringens, plerumque purpurascens, ad ferrugineum colorem accedens, persistens; <i>tubus</i> inclinatus, amplus, ventricosus; <i>faux</i> hians; <i>labium superius</i> concavum, obsolete trifidum, subcarinatum, externe viscidum; <i>labium inferius</i> trifidum, lacinulâ mediâ productione, concava. <i>fig. 2.</i>	COROLLA monopetalous, ringent, generally purplish, approaching to the colour of rusty iron; <i>tube</i> bending downward, large, bellying out; <i>mouth</i> gaping; <i>upper-lip</i> hollow, obsoletely trifid, somewhat keeled, and externally viscid; the lower lip trifid and hollow, the middle segment the longest. <i>fig. 2.</i>
STAMINA: FILAMENTA quatuor, subulata, alba, sub labio superiore recondita, quorum duo longiora; ANTHERÆ leviter coherentes, stramineæ, didymæ, ovatæ, mucronibus terminatæ. <i>fig. 3.</i>	STAMINA: four FILAMENTS, tapering, white, hid under the upper lip, two of which are longer than the rest; ANTHERÆ slightly cohering, of a straw colour, double, ovate, each cavity terminating in a point. <i>fig. 3.</i>
PISTILLUM: GERMEN oblongum, basi antice tribus glandulis, protuberantibus, flavis, melleum liquorem copiose fundentibus, notatum; STYLUS pubescens, flaminibus paulo longior, purpurascens, apice inflexus; STIGMA femibifidum, obtusum, crassiusculum, flavum. <i>fig. 4.</i>	PISTILLUM: GERMEN oblong, marked anteriorly at the base with three protuberant yellow glands, which pour forth plentifully a sweet liquor; STYLE downy, a little longer than the stamina, purplish, bent down at top; STIGMA half-divided, obtuse, thickish, and yellow. <i>fig. 4.</i>
PERICARPIUM: CAPSULA ovato-oblonga, acuminata, unilocularis, bivalvis. <i>fig. 5.</i>	SEED-VESSEL an ovate, oblong capsule, terminating in a point, of one cavity and two valves. <i>fig. 5.</i>
SEMINA numerosa, minima; receptacula quatuor, linearia, lateralia, adnata. <i>fig. 6, 7.</i>	SEEDS numerous and very small; receptacles four, linear, growing to the sides of the capsule. <i>fig. 6, 7.</i>

The literal English translation of the Greek word *Orobanche* is *Strangle-tare**: this term has been given by Dioscorides to one plant, and by Theophrastus to another; ours is undoubtedly the *Orobanche* of Dioscorides, (as it accords with his description†), and also of Pliny. The *Orobanche* of Theophrastus must have been some

* ΟΡΟΒΑΓΧΗ, *Ervangina Gazæ*, quod ὀροβον ἀγγει, *ervum strangulet*, dicitur.

† “*Orobanche* cauliculus est sesquipedalis, et interdum major, subrubus, hirsutus, tener, sine folio, pinguis: flore subalbido, aut in luteum vergente: radice digiti crassitudine, et cum ariditate flaccescit caulis, fistulosus. Hanc inter quadam legumina nasci constat, et ea strangulare, unde *Orobanche* sibi cognomen tum usurpavit. Estur, ut olus, cruda, et in patinis, asparagi modo, decocta. Legumentis addita, concoctio- nem accelerare creditur.” *Matth. ex Diosc.*

climbing

climbing plant, as is evident from his words, which are thus quoted by MATTHIOLUS, "Ervum necat amplexu complexuque suo," whereas the *Orobanche* of DIOSCORIDES, according to the same author, by its presence only, "sua tantum presentia," destroys the Legumina, Corn, Hemp, and Flax which grow near it, and from which property of choaking and devouring the neighbouring plants, MATTHIOLUS says they called it in some parts of Italy the *Wolf plant*; its pernicious effects in this respect are confirmed by a later Italian writer MICHELI, who mentions its being proscribed in Tuscany by public edict.

The most remarkable circumstance in the œconomy of this plant, is its growing from the roots of others; CASPAR BAUHINE asserts, that it is always attached to the fibres (*fibris*) of some plant near it; several of my botanic friends are of opinion that it is not parasitical in all situations, especially in corn fields, but they have not confirmed their opinions by actual and repeated examinations, which are still wanting. The plants from the roots of which CASP. BAUHINE observed it to grow were the *Spartium Scoparium*, common Broom, *Genista tinctoria*, Woodwaxen, *Hieracium subaudum*, shrubby Hawkweed, *Trifolium*, Trefoil, (no particular species is mentioned), and *Orobis tuberosus*, Wood Pea; all of these (one excepted) are leguminous plants, to which it is observed to have the strongest attachment; I have met with it but rarely about London, excepting one spot, in which it might be said truly to abound; this was a small, hilly, barren field, covered partly with furze and broom, on the left-hand side of the road, within about two miles of Kingston, Surry, about half a mile beyond the Robin Hood and Turnpike, in which field the Botanist will find several other rare plants. I have also seen it on Hampstead Heath, and on the borders of Charlton Wood; in these several situations it grew either out of the roots of Broom or Furze, but chiefly the former. My late gardener ROBERT SQUIBB once brought me out of Surry a very strong plant of *Orobanche*, which had grown in a corn field on the root of the *Centaurea Scabiosa*: I planted both roots in my garden, in the situation they were found; the *Knapweed* grew, but the *Broom-rape* died. Several persons have informed me of their having found it to be parasitical on the roots of *Clover*, in particular Dr. GOODENOUGH and Mr. RUGGLES of Cobham; Mr. THOMAS WHITE once related to me his having observed a small *Orobanche* growing on walls, &c. in Pembrokehire, and that the decayed floor of an old castle in particular was almost covered with it; he also noticed, that in some of the western counties this plant was so common as to give the mowers cause of complaint.

The *Orobanche* appears to vary in size according to the size of the root it grows on, the stem being sometimes almost as thick as one's thumb, and at other times not much larger than a wheat-straw; the flowers vary much in their colour, but are mostly dead-purple or yellowish.

The seed of this plant is remarkably small, hence it will be extremely difficult to shew its vegetation by experiment, more especially as it requires a very particular soil and situation, yet no one can doubt but the plant is propagated thereby; it must first vegetate on the earth, then the radicle, which is sent downward, finding a proper root, attaches itself to it, quits its parent earth, and becomes parasitical.

It has a faint smell of cloves, and is said to be a strong astringent and useful vulnerary.

LINNÆUS remarks that *Sweden* is too cold for it to flourish with them.





Rhinanthus crista Galli.

RHINANTHUS CRISTA GALLI. YELLOW RATTLE.

RHINANTHUS *Lin. Gen. Pl. D. DYNAMIA ANGIOSPERMIA.*

Cal. 4-fidus, ventricosus. Capsula 2-locularis, obtusa, compressa.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

RHINANTHUS *Crista Galli* corollis labio superiore compresso brevior. *Lin. Syst. Vegetab. p. 459. Sp. Pl. p. 840. Fl. Suec. 542.*

ALECTOROLOPHUS calycibus glabris. *Haller. Hist. 313.*

MIMULUS *Crista Galli. Scopoli Fl. Carn. n. 751.*

PEDICULARIS pratensis lutea vel Crista Galli. *Bauh. Pin. 163.*

CRISTA GALLI foemina. *I. B. III. 436.*

CRISTA GALLI. *Ger. em. 1071.*

PEDICULARIS seu Crista Galli lutea. *Park. 713. Yellow Rattle or Cocks-comb. Raii Syn. * 284. Hudson. Fl. Angl. ed. 2. p. 268. Lightfoot Fl. Scot. p. 322.*

RADIX annua, simplex, albida, parum fibrosa.

CAULIS pedalis circiter, erectus, simplex, seu ramosus, quadrangulus, glaber, purpureo maculatus.

FOLIA opposita, remotiuscula, sessilia, cordato-lanceolata, obtusiuscula, venosa, lævia, subtus tuberculis albidis pulchre reticulata, ferrata, ferraturis margine crassis et subinvolutis.

BRACTEÆ oppositæ, magnæ, foliis similes at basi latiores, et profundius incisæ, ferraturis acuminatis.

FLORES flavi, spicati, pedunculis brevissimis insidentes.

CALYX: PERIANTHIUM monophyllum, subrotundum, inflatum, compressum, quadridentatum, dentibus equalibus, pallide virens, venosum, persistens, *fig. 1.*

COROLLA monopetala, ringens. *Tubus* subcylindraceus, longitudine calycis; *labium* superius galetum, compressum, emarginatum, margine anteriori utrinque violaceo; *labium* inferius trifidum, laciniis lateralibus planis, rugosis, intermedia majori, marginibus involutis, *fig. 2.*

STAMINA: FILAMENTA quatuor, longitudine labii superioris, sub quo recondita, quorum duo breviora. ANTHERÆ incumbentes, hinc bifidæ, hirsutæ, *fig. 3.*

PISTILLUM: GERMEN ovatum, compressum, glabrum. STYLUS filiformis, staminibus longior. STIGMA obtusum, inflexum, *fig. 4.*

PERICARPIUM: CAPSULA orbiculata, mucronata, compressa, bilocularis, bivalvis, *fig. 7.*

SEMINA plurima, majuscula, compressa, subreniformia, libera, *fig. 8.*

ROOT annual, simple, whitish, furnished with few fibres.

STALK about a foot high, upright, simple or branched, square, smooth, and spotted with purple.

LEAVES opposite, rather remote from each other, sessile, lanceolate with a heart-shaped base, bluntish, veiny, smooth, underneath beautifully reticulated with white tubercles, sawed, the notches thick on the edge, and somewhat rolled back.

FLORAL-LEAVES opposite, large like the leaves, but broader at the base, and more deeply cut in, the notches pointed.

FLOWERS yellow, growing in a spike, and sitting on very short foot-stalks.

CALYX: a PERIANTHIUM of one leaf, roundish, inflated, flattened, having four equal teeth, of a pale green colour, and permanent, *fig. 1.*

COROLLA monopetalous, ringent. *Tube* somewhat cylindrical, the length of the calyx; the upper *lip* helmet-shaped, flattened, with a notch on the end, the anterior edge blueish on each side, the lower *lip* trifid, the lateral segments flat and wrinkled, the middle one largest, the edges rolled inward, *fig. 2.*

STAMINA: four FILAMENTS, the length of the upper lip, under which they lie hid, two of which are shorter than the others. ANTHERÆ incumbent, at one end bifid, and hairy, *fig. 3.*

PISTILLUM: GERMEN ovate, flattened, smooth. STYLE filiform, longer than the stamens. STIGMA blunt, and bent downwards, *fig. 4.*

SEED-VESSEL: a round, flat CAPSULE of two cavities and two valves, terminating in a short point, *fig. 7.*

SEEDS several, rather large, flattened, somewhat kidney-shaped and loose, *fig. 8.*

The seeds of this plant, when ripe, rattle in the husks, and hence its name. LINNÆUS informs us, that this circumstance guides the Swedish peasant in mowing his grass for hay. In the neighbourhood of London hay-making commences while this plant is in full bloom.

It abounds in most of our pastures, and flowers early in June.

Agriculturally considered, we may rank it with the useless plants.

In the third edition of RAY's Synopsis, DILLENUS, on the authority of Dr. RICHARDSON, adds another species, which he calls *Pedicularis major angustifolia ramosissima flore minore luteo, labello purpureo*. Found near York, and also in Northumberland. This, however, is considered by succeeding Botanists as a variety only, and is not found with us.





Euphrasia officinalis.

del a. p. 104.

EUPHRASIA OFFICINALIS. COMMON EYEBRIGHT.

EUPHRASIA *Lin. Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

Cal. 4-fidus, cylindricus. *Caps.* 2-ocularis, ovato-oblonga. *Antheræ* inferiores altero lobo basi spinosæ.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCQ SINGULARI FLORE MONOPETALO.

EUPHRASIA *officinalis* foliis ovatis lineatis argute dentatis. *Lin. Syst. Vegetab.* p. 460. *Sp. Pl.* p. 481. *Fl. Suec.* n. 513. *Haller hist.* 303.

EUPHRASIA *officinalis.* *Scopoli Fl. Carn.* n. 753.

EUPHRASIA *officinarum.* *Bauh. pin.* 233. *Ger. emac.* 663. *Parkin.* 1329. *Raii. Syn.* p. * 284. Eyebright, *Hudson Fl. Angl. ed. 2.* p. 268. *Lightfoot Fl. Scot.* p. 323.

RADIX annua, fibrosa, albida.

CAULIS bipollicaris ad palmarem et ultra, erectus, teres, pubescens, purpureus, plerumque ramifolius.

FOLIA opposita, ovata, obtusa, ferrato-dentata, dentibus acuminatis, supra convexis, subtus concavis, minutim ciliatis, utrinque hirsutula, supra nitidula, lineata, subtus venosa.

RACEMUS terminalis, foliaceus, erectus, floribus axillaribus, oppositis, sessilibus.

CALYX: PERIANTHIUM monophyllum, ovatum, angulatum, persistens, foliis paulo brevius, pubescens, quadrifidum, laciniis, lanceolatis, acuminatis, erectis, ciliatis, subæqualibus, fig. 1.

COROLLA monopetala, alba, ringens; *Tubus* cylindricus, albus, glaber, longitudine calycis, fig. 2. *Limbus* bilabiatus; *Labium* superius album, subovatum, concavum, pubescens, striis cærulescentibus utrinque 3, intus pictum, obtusum, erectum, bifidum, lobis emarginatis, fig. 3; inferius superiori paulo majus, trifidum, laciniis omnibus emarginatis, fig. 4. *Faux* undique striata, et picta striis cærulescentibus, antice vero colore luteo.

STAMINA: FILAMENTA quatuor, subulata, purpurascens, tubo inserta, fig. 5. ANTHERÆ purpureæ, bilobæ, obtusæ, subtus barbatae, conniventes, lobis spinula terminatis, duabus inferioribus longioribus, fig. 6, 7.

PISTILLUM: GERMEN ovatum, obtusum, barbatum, fig. 8. STYLUS filiformis, superne pubescens, fig. 9. STIGMA obtusum, integrum, fig. 10.

PERICARPIUM: CAPSULA ovato-oblonga, compressa, obtusa, mucronata, bilocularis, fig. 11.

SEMINA plurima, albida, striata, fig. 12.

ROOT annual, fibrous, and whitish.

STALK from two to four inches high, or more, upright, round, hoary, purple, for the most part branched.

LEAVES opposite; ovate, obtuse, ferrated or indented, teeth pointed, above convex, beneath concave, finely edged with hairs, slightly hirsute on each side, above somewhat glossy, with lines impressed, underneath veiny.

RACEMUS terminal, leafy, upright, flowers in the axæ of the leaves, opposite and sessile.

CALYX: a PERIANTHIUM of one leaf, ovate, angular, permanent, a little shorter than the leaves, pubescent, divided into four segments, which are lanceolate, long-pointed, upright, edged with hairs, and nearly equal, fig. 1.

COROLLA monopetalous, white, ringent; *Tube* cylindrical, white, smooth, the length of the calyx, fig. 2. *Limb* two-lip'd; upper *Lip* white, somewhat ovate, hollow, downy, painted on the inside with three blueish streaks on each side, blunt, upright, bifid, the lobes emarginate, fig. 3; the lower lip somewhat larger than the upper, trifid, all the segments emarginate, fig. 4. *Mouth* striated all round, and painted with blueish streaks, but anteriorly of a yellow colour.

STAMINA: four tapering, purplish FILAMENTS inserted into the tube of the corolla, fig. 5. ANTHERÆ purple, two-lob'd, obtuse, bearded underneath, closing together, the lobes terminating in a spine, the two lowermost the longest, fig. 6, 7.

PISTILLUM: GERMEN ovate, obtuse, bearded, fig. 8. STYLE, filiform, downy, on the upper part, fig. 9. STIGMA blunt, and entire, fig. 10.

SEED-VESSEL: an ovate, oblong, CAPSULE, flattened, obtuse, with a short point, of two cavities, fig. 11.

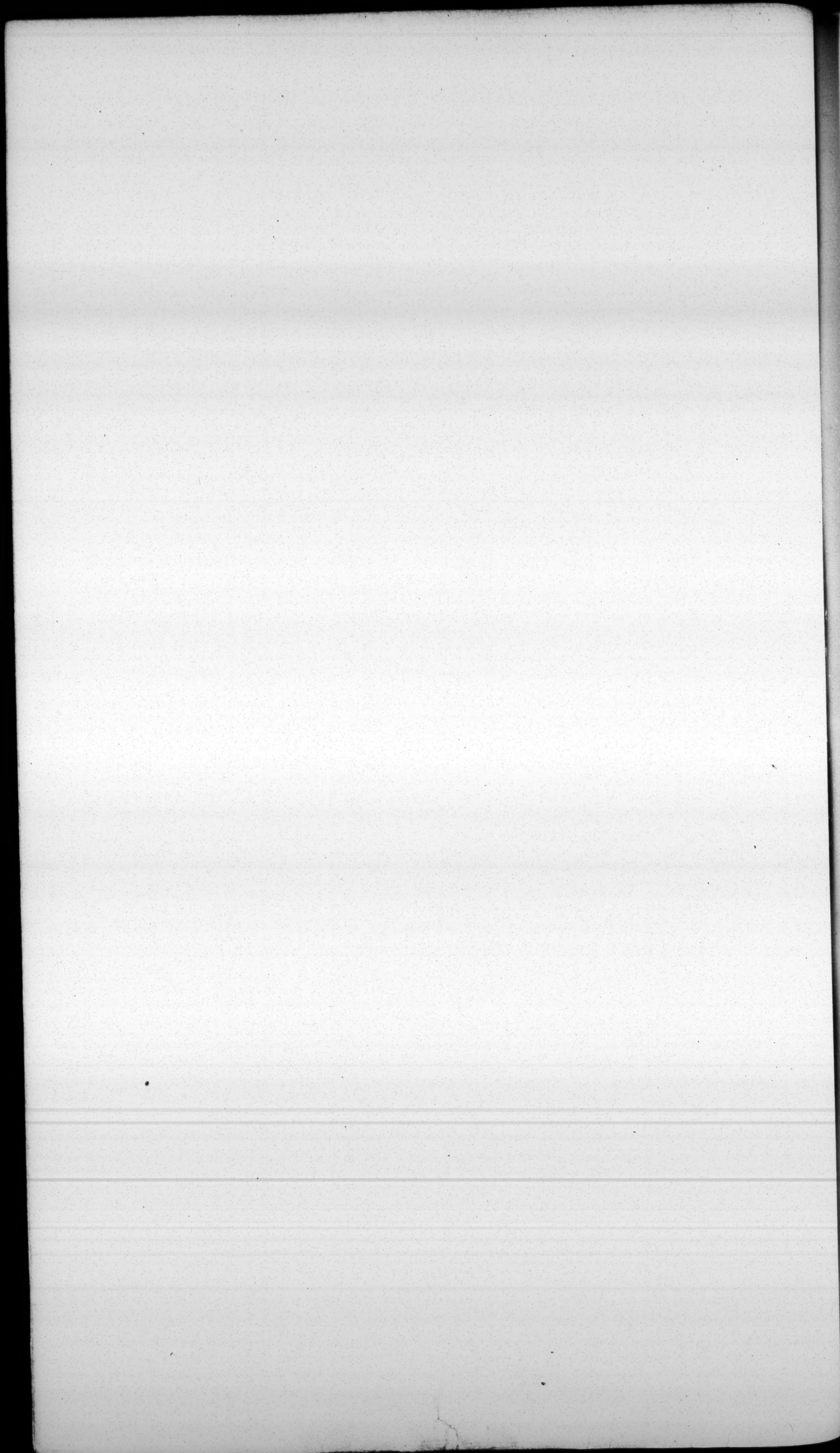
SEEDS several, whitish, and striated, fig. 12.

Eyebright is a very common plant on heaths, and pastures, especially where the soil is chalky; it varies much in size and in the branchedness of its stalk, as well as in the colour and size of its blossoms, and flowers from July to September.

Many writers on the *Materia Medica*, ascribe to this plant wonderful efficacy in disorders of the Eyes: ALSTON says, it has been long reckoned a specific opthalmic, and commended for dim, weak, and watery eyes, for inflamed and sore eyes, for cataracts, &c. yea, it is said to make old eyes become young again, and the blind to see. MILTON, who most probably from his own misfortune, had been induced to look into books of this sort, thus mentions it:

“ but to nobler fights
“ Michael from Adam's eyes the film remov'd,
“ Which that false fruit that promis'd clearer sight
“ Had bred; then purg'd with *euphrasy* and rue
“ The visual nerve, for he had much to see.”

On the other hand, there are not wanting those who condemn its use, especially in inflammatory complaints of the eyes; a friend of LOBEL's is said nearly to have lost his eyesight by the use of it. In such contrariety of sentiment, it will, perhaps, be most prudent not to lay too much stress on so doubtful a remedy.







Euphrasia Odontites.

EUPHRASIA ODONTITES. RED EYE-BRIGHT.

EUPHRASIA *Linnaei Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Raii Syn. Gen. HERBÆ FRUCTU SICCICO SINGULARI FLORE MONOPETALO.

EUPHRASIA *Odontites foliis linearibus: omnibus ferratis. Linnaei Syst. Vegetab. Sp. Pl. p. 841. Fl.*

Succic. p. 213. n. 544.

ODONTITES *bracteis ferratis hirsutis. Haller. hist. v. 1. p. 134. n. 304.*

EUPHRASIA *Odontites. Scopoli Fl. Carniol. p. 435.*

EUPHRASIA *pratensis rubra. Baubin Pin. p. 234.*

EUPHRASIA *pratensis rubra major. Parkinson 1329.*

CRATÆOGONON *Euphrosyne. Ger. emac. 91. Raii Syn. p.* 284. Eye-bright Cow-wheat. Hudson*

Fl. Angl. p. 234.

RADIX annua, simplex, fibrosa, lignea.

CAULIS erectus, ramosissimus, semipedalis, ad bipedalem, hirsutus, obtuse quadrangularis.

RAMI cauli similes, oppositi.

FOLIA alterne opposita, sessilia, lineari-lanceolata, reflexa, rariter dentata, hirsutula, venosa, venis parvis, subtus hirsutis.

BRACTEÆ lanceolatae, suberectae, purpurascentes.

FLORES spicati, secundi, spicis apice subnutantibus,

CALYX: PERIANTHIUM monophyllum, tubulosum, quadridentatum, hirsutum, dentibus aequalibus, acutis, fig. 1.

COROLLA monopetala, ringens, labium superius concavum, submarginatum, inferius tripartitum, laciniis obtusis, aequalibus, fig. 2.

STAMINA: FILAMENTA quatuor, quorum duo paulo breviora, alba; ANTHERÆ bilobae, biloculares, apice filamentosae, basi spinulis duabus terminatae, deorsum ubi filamentum inferitur appendiculis clavatis pluribus instructae, fig. 3, 4, 5.

PISTILLUM: GERMEN ovatum, hirsutulum; STYLUS filiformis, in flore nondum explicato sub labio superiore Corollae involutus, postea Corollae longior; STIGMA capitatum, fig. 6.

PERICARPIUM: CAPSULA ovato-oblonga, compressa, bilocularis, fig. 7.

SEMINA plurima, albida, striata, fig. 8.

ROOT annual, simple, fibrous, and woody.

STALK upright, very much branched, from six inches to two feet high, hirsute, and obtusely square.

BRANCHES like the stalk and opposite.

LEAVES alternately opposite, sessile, betwixt linear and lanceolate, turning back, thinly indented, slightly hirsute, veiny, veins few and hirsute underneath.

BRACTEÆ lanceolate, nearly upright, purplish.

FLOWERS growing in spikes of a red colour, inclined all one way, the spikes nodding a little at top.

CALYX: a PERIANTHIUM of one leaf, tubular, quadridentate, hirsute, the teeth equal and sharp, fig. 1.

COROLLA monopetalous, gaping, the upper lip concave and slightly notched in; the lower lip divided into three, obtuse, equal segments, fig. 2.

STAMINA: four FILAMENTS, two somewhat longest, white; ANTHERÆ composed of two lobes and two cavities, at top thready, at bottom terminated by two little spines, and on the back part where the filament is inserted, furnished with several small club-shaped threads or appendages, fig. 3, 4, 5.

PISTILLUM: GERMEN oval, hirsute; STYLE filiform, before the flower opens bent in underneath the upper lip of the Corolla; afterwards longer than the Corolla; STIGMATA forming a little head, fig. 6.

SEED-VESSEL an oval, oblong, flattish CAPSULE, of two cavities, fig. 7.

SEEDS several, whitish and striated, fig. 8.

This species of *Eyebright*, which is exceedingly different from the common sort, grows very common in Pastures, sometimes in Corn-fields, and flowers in July and August: it differs very much in size according to the place it grows in, and is now and then found with white flowers. It is not remarked either for its beauty or utility.





Cuscuta cymbalaria.

ANTIRRHINUM CYMBALARIA. IVY-LEAV'D ANTIRRHINUM.

ANTIRRHINUM *Linnaei Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

Raii Syn. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *Cymbalaria foliis cordatis quinquelobis alternis, caulibus procumbentibus. Linnaei Syst. Vegetab. p. 464. Sp. Pl. p. 851.*

ANTIRRHINUM caule repente, foliis reniformibus, quinquelobatis. *Haller hist. p. 146. n. 339.*

ANTIRRHINUM *Cymbalaria Scopoli Fl. Carniol. n. 770.*

CYMBALARIA *Baubin pin. 306.*

LINARIA *hederacco folio glabro, seu Cymbalaria vulgaris. Tourn. 169. Garidel. 287. Gouan. Fl. Monsp. p. 100. Gerard Fl. Galloprov. p. 292. Raii Syn. p. *282. Hudson Fl. Angl. p. 237.*

Tota Planta glabra, cum odore ingrato.

RADIX perennis, fibrosa, intra fissuras murorum penetans; eradicatione difficilis.

CAULES plures, confertim nascuntur, basi repentes, procumbentes, ramosi, teretes, glabri, purpurascens, nervo intus duriore et tenacior sicut in Alfine.

FOLIA quinquelobata, glabra, subcarnosa, opposita, aut alterna, sæpe purpurascens, fig. 12.

PETIOLI longi, superne fulcati.

PEDUNCULI teretes, petiolis paulo longiores.

CALYX: PERIANTHIUM quinquepartitum, laciniis lanceolatis, persistentibus, fig. 1.

COROLLA monopetala, ringens; TUBUS brevis, fig. 6; LIMBUS bilabiatus, labium superius bifidum, reflexum, purpureum, venis duabus saturatioribus striatum, fig. 2. inferius trifidum, laciniis subrotundis, albidis, fig. 3; PALATUM prominens, bifidum, flavum, fig. 5, FAUX villosa, croceum.

NECTARIUM purpureum, conicum, longitudine calycis, fig. 5.

STAMINA: FILAMENTA quatuor, duo breviora; ANTHERÆ bilobæ, albæ, conniventes, fig. 7.

PISTILLUM: GERMEN subrotundum, purpureum; STYLUS filiformis; STIGMA obtusum, fig. 8.

PERICARPIUM CAPSULA subrotunda, rugosa, seminibus protuberantibus, bivalvis, valvis apice in plures lacinias dehiscentibus, fig. 9, 10.

SEMINA nigra, subrotunda, rugosa, fig. 10.

The whole plant smooth, with a disagreeable smell.

ROOT perennial, fibrous, penetrating between the crevices of the walls, and scarce to be eradicated.

STALKS numerous, growing in a kind of tuft, creeping at bottom, procumbent, branched, round, smooth, purplish, and stringy as in Chickweed.

LEAVES quinquelobate, smooth, somewhat fleshy, some of them opposite, others alternate, frequently purplish, fig. 12.

FOOT-STALKS of the leaves long, on the upper part grooved.

FOOT-STALKS of the flowers, round, a little longer than the foot-stalks of the leaves.

CALYX: a PERIANTHIUM divided into five segments, which are lanceolate and continuing, fig. 1.

COROLLA monopetalous, ringent; the TUBE short, fig. 6: the LIMB divided into two lips; the upper lip bifid, turning back, and purple, striped with two veins of a deeper colour, fig. 2; the lower lip trifid, the segments round and whitish, fig. 3; the PALATE prominent, bifid, and yellow, fig. 4; the MOUTH or entrance into the tube villous and saffron-coloured.

NECTARY purple, conical, the length of the Calyx, fig. 5.

STAMINA: four FILAMENTS, two short and two long; ANTHERÆ composed of two lobes, white and connivent, fig. 7.

PISTILLUM: GERMEN roundish and purple; STYLE filiform; STIGMA blunt, fig. 8.

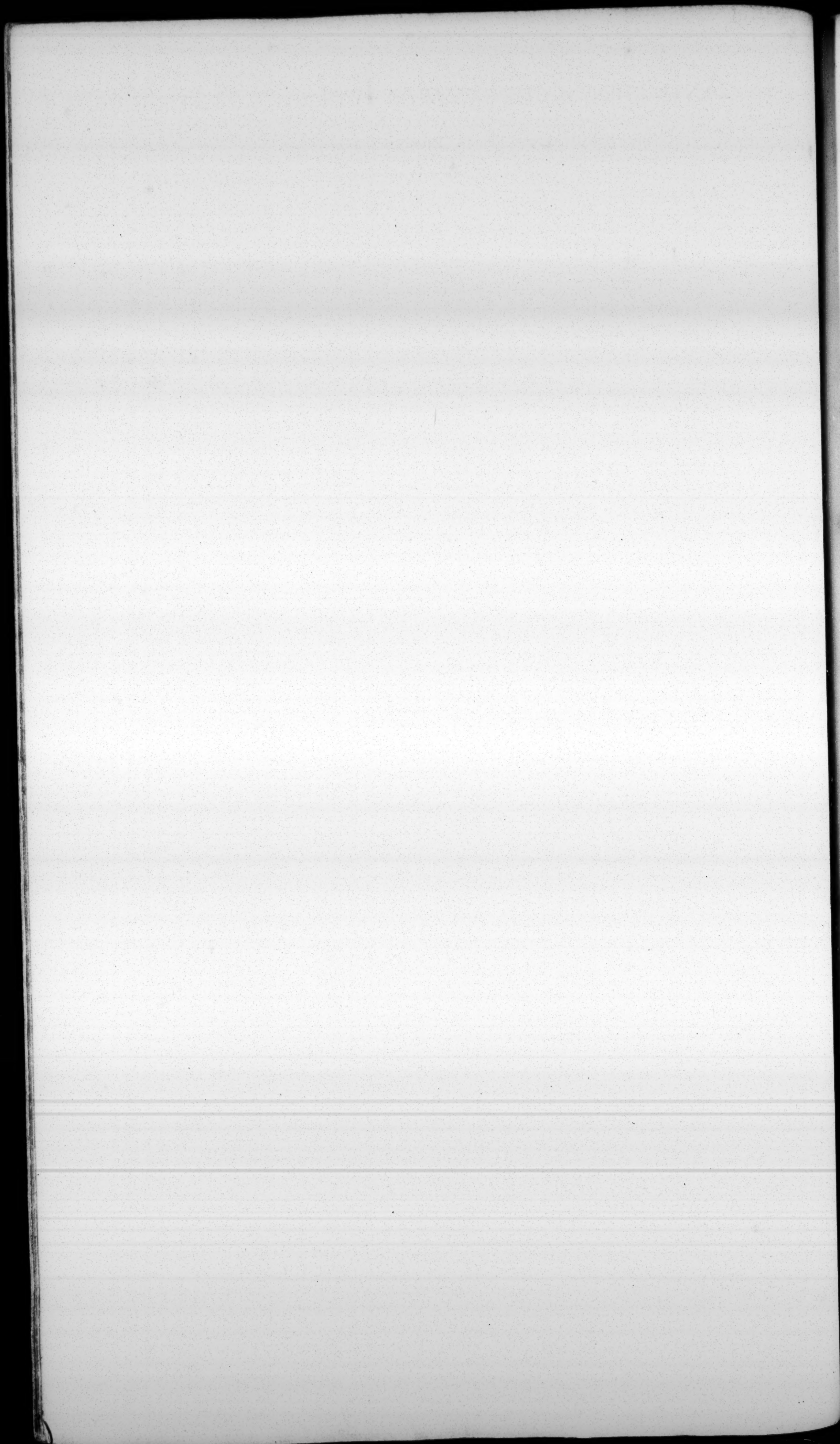
SEED-VESSEL a roundish CAPSULE, surface uneven, from the seeds protuberating, of two valves, which open at top into several laciniae, fig. 9, 10.

SEEDS black, roundish and wrinkled, fig. 10.

This Species of *Antirrhinum* is so perfectly distinct from all the others which grow wild in this country, that there is no possibility of mistaking it. It is found in great plenty in all those parts near London, that lay within the reach of the Thames; the seeds are carried by the flux and reflux of the tide up and down the river, and left at high water mark in the crevices of old walls, where they take root and encrease very fast. It is supposed to have been introduced to us from Italy, whether for the purposes of ornament or medicine is uncertain.

The Walls of the *Physic Garden*, at *Chelsea*, from whence it has probably originated in this country, are plentifully covered with it; it may also be found on the *Temple Walls*, and at the sides of the stream running under *Vauxhall Turnpike*.

In some situations the leaves grow much larger than those of the annexed specimen.







• *Antirrhinum Flaticum*.

ANTIRRHINUM ELATINE. SHARP-POINTED FLUELLIN.

ANTIRRHINUM *Lin. Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO IRREGULARI.

ANTIRRHINUM foliis hastatis alternis, caulibus procumbentibus. *Linn. Sp. Pl.* 85.

ANTIRRHINUM caule procumbente, foliis hastatis, imis conjugatis, superioribus alternis. *Haller hist. v.* 1. p. 14. 6. n. 340.

ELATINE folio acuminato, in basi auriculato, flore luteo. *Bauhin Pin.* 253.

ELATINE folio acuminato. *Parkinson* 553.

ELATINE altera. *Gerard emac.* 623.

LINARIA *Elatine* dicta, folio acuminato. *Raii Syn.* *282.

ANTIRRHINUM *Elatine*. *Hudson Fl. Angl.* p. 237. *Scopoli Fl. Carniol.* p. 444. *Oeder. Fl. Dan. Ic.* 426.

TOTA PLANTA pilosa.

RADIX fibrosa, annua, albida,

CAULES numerosi, teretes, subramosi, in junioribus plantis suberecti, tandem procumbentes, ad duos pedes et ultra sæpe extensi.

FOLIA petiolata, ima subrotunda, opposita; proxima dentata, alterna; quæ sequuntur magna ex parte hastata.

PEDUNCULI axillares, alterni, penduli, longitudine foliorum.

CALYX: PERIANTHIUM quinquepartitum, persistens, segmentis ovato-lanceolatis acutis, *fig. 1.*

COROLLA monopetala, ringens, flava; TUBUS brevissimus; LIMBUS bilabiatus, labium superius bifidum, segmentis obtusis, inferne purpureis, inferius trifidum, segmentis obtusis, medio productiore, et paulo minore; PALATUM prominulum, flavum, *fig. 2;* NECTARIUM subulatum, flavum, longitudine segmentorum calycis, *fig. 3.*

STAMINA: FILAMENTA quatuor, quorum duo paulo longiora; ANTHERÆ purpureo-fuscæ, coalescentes, *fig. 4.*

PISTILLUM: GERMEN subrotundum, compressum, apice villosum; STYLUS filiformis, longitudine staminum, apice incrassatus, uncinatus; STIGMA simplex, *fig. 5, 6, 7.*

PERICARPIUM: CAPSULA rotunda, bilocularis, bivalvis, valvis deciduis, foramine magno in utroque latere capsulæ relicto, valvæ orbiculatæ, concavæ, *fig. 8, 9, 10.*

SEMINA nigra, rugosa, 8-10 in singulo loculamento, *fig. 12.*

THE WHOLE PLANT hairy.

ROOT fibrous, annual, whitish.

STALKS numerous, round, a little branched, in the young plants nearly upright, in the old ones trailing on the ground, frequently to the distance of two feet or more.

LEAVES standing on foot-stalks, the bottom leaves roundish and opposite, the next to those are indented and alternate, and those which follow are for the most part hastate.

PEDUNCLES alternate, pendulous, the length of, and proceeding from the Axæ of the leaves.

CALYX: a PERIANTHIUM divided into five segments persisting, the segments lanceolate, *fig. 1.*

COROLLA monopetalous, ringent, and yellow; the TUBE very short; the LIMB divided into two lips, the upper lip bifid, the segments obtuse, and purple underneath; the lower lip trifid, the segments obtuse, the middle one longest and least; the PALATE prominent and yellow, *fig. 2;* the NECTARIUM the length of the segments of the Calyx, small and tapering, *fig. 3.*

STAMINA four FILAMENTS, two of which are a little longer than the others; the ANTHERÆ purplish-brown, adhering together, *fig. 4.*

PISTILLUM: the GERMEN roundish, flattened, at top hairy; the STYLE filiform, the length of the Stamina, thickened at top and hooked; the STIGMA simple, *fig. 5, 6, 7.*

SEED-VESSEL: a round CAPSULE of two cavities and two valves, the valves round and concave, on falling off leaving a large hole in each side of the Capsule, *fig. 8, 9, 10.*

SEEDS black, and wrinkled, from 8 to 10 in each cavity, *fig. 12.*

THIS species of *Antirrhinum* grows generally in Corn-fields, and in some parts of England is much more common than it is with us; in the Corn-fields about *Peckham* I have generally found it in bloom in July, August and September, and even later; it very much resembles the *Antirrhinum spurium* in its general habit, but is readily distinguished by its pointed leaves. Some Writers have considered it as possessed of healing properties, and affirm that the expressed juice of the plant, or its distilled water taken inwardly and applied externally, has checked and cured spreading and cancerous Ulcers; and RAY relates a Story from LOBEL of a poor Barber, who by the above use of this plant, saved his Nose, which had been condemned to be cut off by several eminent Physicians and Surgeons.







Antirrhinum spurium

ANTIRRHINUM SPURIUM. ROUND-LEAVED FLUELLIN.

ANTIRRHINUM *Lin. Gen. Pl. DIDYNAMIA GYMnosPERMIA.*

Cal. 5. phyllus. *Corollæ* basis deorsum prominens, nectarifera. *Capsula* 2-
locularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

ANTIRRHINUM *spurium* foliis ovatis alternis, caulibus procumbentibus. *Lin. Syst. Vegetab.* p. 464.
Sp. Pl. 851.

ANTIRRHINUM caule procumbente, foliis villosis, ovatis, imis conjugatis, superioribus alternis. *Haller.*
Hist. p. 771.

ANTIRRHINUM *spurium.* *Scopoli Fl. Carniol.* 771.

ELATINE folio subrotundo. *Baubin pin.* 252. *Park.* 533.

VERONICA foemina Fuchsi seu Elatine *Ger. em.* 625.

LINARIA Elatine dicta folio subrotundo.

Raii Syn. p.* 282. Round-leaved Female Fluellin.

Hudson. Fl. Angl. ed. 2. p. 272.

The *Antirrhinum spurium* bears so great an affinity in its habit and fructifications (*vid. fig. 1, 2, 3.*) to the *Elatine*, that it would be superfluous to describe it minutely; it is sufficiently distinguished from that plant by its leaves alone, which in this species are always round, in that hastate, at least those of the stalk, for in both species the leaves next the root are roundish and generally indented; of the two the *spurium* is the largest plant.

Although LINNÆUS has given it the name of *spurium*, there is no reason to suppose it the spurious offspring of the *Elatine*, as the two plants generally grow separate. About *Alton*, in *Hampshire*, the *spurium* abounds in many corn fields, without the least mixture of the *Elatine*; and about *Coomb-wood*, in *Surry*, the *Elatine* may be found in plenty, without the least traces of the *spurium*: while in some counties they grow promiscuously in the same field.

The round-leaved is by far the scarcest plant near town; I found it last July tolerably plentiful and in blossom, in a corn field betwixt *Beckenham* and *Shirley Common*.





Verbena officinalis

ANTIRRHINUM MINUS. THE LEAST TOAD-FLAX.

ANTIRRHINUM *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Cal. 5-phyllus. Corollæ basis deorsum prominens, nectarifera. Capsula 2-locularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *minus* foliis plerisque alternis lanceolatis obtusis, caule ramosissimo diffuso. *Lin. Syst. Vegetab. p. 466. Sp. Pl. p. 852. Fl. Succ. p. 502.*

ANTIRRHINUM viscidum foliis inferioribus conjugatis ellipticis obtusis hirsutis, calcare dimidii floris longitudine. *Haller. Hist. n. 335.*

ANTIRRHINUM *minus. Scopoli Fl. Carn. n. 769.*

ANTIRRHINUM arvense minus. *Bauh. pin. 212.*

ANTIRRHINUM minimum repens. *Ger. emac. 549.*

ANTIRRHINUM sylvestre minimum. *Parkins. 1334.*

LINARIA Antirrhinum dicta. *Raii Syn. p. *283. The least Calf's Snout or Snap-dragon. Hudson. Fl. Angl. ed. 2. p. 272. Oeder. Fl. Dan. t. 532.*

RADIX annua, simplex, fibrosa.

CAULIS erectus, spithameus, seu dodrantalis, ad basin usque ramosus, teres, ramis inferioribus oppositis, superioribus alternis.

FOLIA ut ut tota planta villosa, subviscosa, inferiora opposita, patentia, subspatulata, superiora alternata, recurvata, lineari-lanceolata, obtusa.

FLORES parvi, solitarii, alterni, pedunculati, pedunculis erectis.

CALYX: PERIANTHIUM quinque-partitum, persistens, laciniis linearibus, subæqualibus, corolla brevioribus, *fig. 1.*

COROLLA monopetala, tubus superne purpureus, inferne maculis duabus parallelis, purpureis notatus, calcar brevissimum tubulatum purpurascens, labium superius bifidum, inferne albidum, inferius trifidum, album; palatum villosum, flavescens, *fig. 2.*

STAMINA: FILAMENTA quatuor, alba. ANTHERÆ nigricantes. POLLEN album.

PISTILLUM: GERMEN subovatum, viscidum, rufescens. STYLUS filiformis, superne purpureus. STIGMA simplex, album.

PERICARPIUM: CAPSULA ovata, apice dehiscens.

ROOT annual, simple, and fibrous.

STALK upright, from five to nine inches in height, branched down to the bottom, round, the lowermost branches opposite, the uppermost alternate.

LEAVES as well as the whole plant villous, and somewhat viscid, the lower ones opposite, spreading, somewhat spatula-shaped, the upper ones alternate, bent back, betwixt linear and lanceolate, the extremity obtuse.

FLOWERS small, solitary, alternate, standing on upright foot-stalks.

CALYX: a PERIANTHIUM deeply divided into five segments, which are linear, nearly equal, shorter than the corolla and permanent, *fig. 1.*

COROLLA monopetalous, the tube on the upper side purple, underneath marked with two parallel purple spots, spur very short and tapering, of a purplish colour, the upper lip bifid, on the underside whitish, the lower trifid and white, the palate villous and yellowish, *fig. 2.*

STAMINA: four white FILAMENTS. ANTHERÆ blackish. POLLEN white.

PISTILLUM: GERMEN somewhat ovate, viscid, and of a reddish brown colour. STYLE filiform, on the upper part purplish. STIGMA simple and white.

SEED-VESSEL, an ovate CAPSULE opening at top.

Botanists have distinguished this species by the names of *minus* and *minimum*, as being the most diminutive of the genus. It may also be considered as one of the least ornamental.

It is chiefly found in corn fields, especially where the soil is sandy. We have occasionally noticed it in Battersea Fields with the *Orontium*; but in many parts of Kent it grows much more plentifully.

We know of no use to which it is applicable; and it is too diminutive a plant to do much harm where it is most abundant.

Introduced into the garden, it comes up annually without any care, nor is it easily lost.

It branches and spreads according to the luxuriance of the soil, and frequently grows to a much greater size than our figure represents.

It flowers from June to August.





(*Antirrhinum*

Orontium .

ANTIRRHINUM ORONTIUM. SMALL SNAPDRAGON.

ANTIRRHINUM *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Cal. 5-phyllus. Corollæ basis deorsum prominens, nectarifera. Capsula 2-locularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *Orontium* corollis ecaudatis, floribus subspicatis, calycibus corolla longioribus. *Lin. Syst. Vegetab. p. 466. Sp. Pl. p. 860. Fl. Succ. n. 559.*

ANTIRRHINUM foliis ellipticis obtusis, floribus sparsis, calycibus subulatis longissimis, calcare brevissima. *Haller. Hist. n. 334.*

ANTIRRHINUM *Orontium. Scopoli Fl. Carn. n. 774.*

ANTIRRHINUM angustifolium sylvestre. *Baub. Hist. III. 464.*

ANTIRRHINUM arvense majus. *Baub. pin. 212.*

ANTIRRHINUM sylvestre medium. *Parkinsf. 1334. Raii Syn. p. *283. The lesser wild Calf's Snout or Snapdragon. Hudson. Fl. Angl. ed. 2. p. 274.*

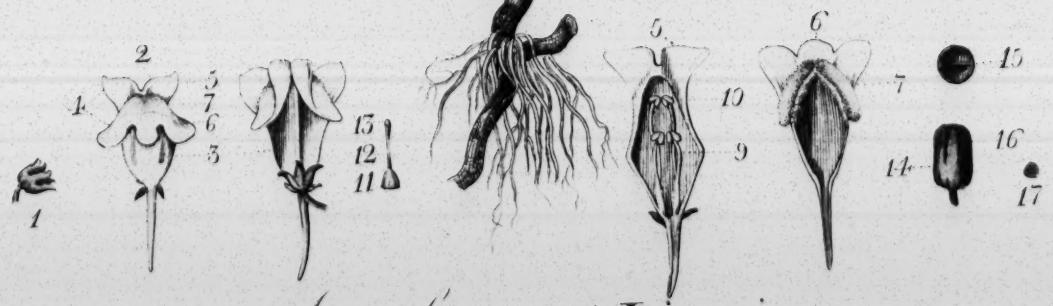
RADIX annua, simplex, rigida, albida, fibrosa, fibris paucis, patentibus.	ROOT annual, simple, stiff, whitish, fibrous, fibres few and spreading.
CAULIS spithameus, aut pedalis, simplex seu ramosus, erectus, teres, pilosus, pilis patentibus, subviscidis.	STALK from a span to a foot in height, simple or branched, upright, round, hairy, the hairs spreading and somewhat viscid.
FOLIA ima opposita, subconnata, superiora alterna, lineari-lanceolata, carinata, deflexa, integerrima, hirsutula.	LEAVES of a shape betwixt linear and lanceolate, keeled, turning downward, entire at the edge, slightly hairy, the lowermost opposite, slightly uniting at the base, the uppermost alternate.
FLORES pauci, axillares, sessiles, rubelli, vix spicati, nisi in speciminibus majoribus.	FLOWERS few, growing from the axils of the leaves, sessile, of a bright red colour, scarcely forming a spike, unless in large specimens.
CALYX: PERIANTHIUM quinque-partitum, persistens, laciniis linearibus, carinatis, hirsutis, longitudine corollæ, superiore longiore.	CALYX: a PERIANTHIUM deeply divided into five segments, and permanent; the segments linear, keeled, hairy, the length of the corolla, the uppermost segment longest.
COROLLA monopetala, rosea, venis saturationibus striata, inferne et superne pubescens; labium superius bifidum, lateribus reflexum, inferius trifidum, laciniis deflexis, intermedia minore, Nectarium brevissimum, obtusum. fig. 1.	COROLLA monopetalous, rose coloured, striped with veins of the same colour but deeper, both above and below slightly hairy, the upper lip bifid, the sides turning back, the lower lip trifid, the segments turning down, the middle one the smallest; Nectary very short and blunt. fig. 1.
STAMINA: FILAMENTA quatuor, filiformia, purpurascens, glabra, quorum duo breviora; ANTHERÆ flavæ, bilobæ, conniventes. fig. 2.	STAMINA: four FILAMENTS, thread-shaped, purplish, smooth, two of which are shorter than the others; ANTHERÆ yellow, closing together, composed of two lobes. fig. 2.
PISTILLUM: GERMEN subrotundum, villosum; STYLUS subulatus, villosus, apice paululum inclinatus; STIGMA obtusum, flavum. fig. 3.	PISTILLUM: GERMEN roundish, and villous; STYLE tapering, villous, bending a little downward at top; STIGMA blunt and yellow. fig. 3.
PERICARPIUM: CAPSULA pedunculata, erecta, hirsuta, apice triforaminosa, bilocularis. fig. 4.	SEED-VESSEL: a CAPSULE standing on a footstalk, upright, hairy, having two cavities and three apertures at top. fig. 4.
SEMINA plurima, nigricantia, angulata. fig. 5.	SEEDS numerous, blackish and angular. fig. 5.

This species of *Antirrhinum* is distinguished from all the others, the *majus* excepted, by having no spur to the corolla, and from the *majus* by being an annual, and having long, pointed leaves to the calyx, which in that plant are short and obtuse.

It grows in tolerable plenty in Battersea Corn-fields, where it flowers in July and August.

The seed-vessel, when fully ripe, is a curious representation of the skull of a Quadruped.





Antirrhinum Linaria.

ANTIRRHINUM LINARIA. COMMON YELLOW TOAD FLAX.

ANTIRRHINUM *Linnaei Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *Linaria* foliis lanceolato-linearibus confertis, caule erecto, spicis terminalibus sessilibus, floribus imbricatis. *Lin. Syst. Vegetab.* p. 466. *Fl. Suecic.* 217.

ANTIRRHINUM foliis linearibus adscendentibus congestis, caule erecto spicato. *Haller. hist. V. I.* p. 145.

LINARIA vulgaris lutea flore majore. *Baubin pin. p.* 212.

LINARIA lutea vulgaris. *Gerard emac.* 550. vulgaris nostras. *Parkinson* 458. *Raii Syn. p.* *281. *Hudson Fl. Angl. p.* 238. *Scopoli Fl. Carniol. p.* 442:

RADIX perennis, alba, dura, lignosa, per terram reptando immensum se propagans.

CAULES plerumque plures ex eadem radice, erecti, pedales aut cubitales, foliosissimi, teretes, laeves.

FOLIA linearia, acuta, conferta, sparsa, glauca.

FLORES lutei, palato croceo, in summis caulibus in spicas densas imbricatum congesti.

CALYX: PERIANTHIUM quinquepartitum, breve, persistens, laciniis ovato-lanceolatis, superiore ceteris paulo longiore, duabus inferioribus magis dehiscentibus, *fig. 1.*

COROLLA monopetala ringens, lutea, *fig. 3.* TUBUS brevis; LIMBUS bilabiatus, *fig. 4.* LABIUM superius bifidum, laciniis primum deflexis, postea reflexis conniventibus, *fig. 5;* LABIUM inferius trifidum, laciniis obtusis, intermedio brevioris minore, *fig. 6;* FAUX clausa PALATO prominente, bifido, croceo, ad basin villosa, *fig. 7.*

STAMINA: FILAMENTA quatuor, alba, sub labio superiori inclusa, quorum duo breviora, ad basin villosa, *fig. 9;* ANTHERÆ flavæ, conniventes, *fig. 10.*

PISTILLUM: GERMEN subrotundum, STYLUS filiformis, albus; STIGMA obtusum.

PERICARPIUM: CAPSULA ovato-cylindracea, bilocularis, apice in plures lacinias dehiscens, *fig. 14, 15, 16.*

SEMINA numerosa, nigra, plana, medio extuberantia, *fig. 17.*

ROOT perennial, white, hard and woody, creeping under the earth, and propagating itself very much.

STALKS: generally several arise from the same root, upright, from one to two feet high, very full of leaves, round and smooth.

LEAVES linear, pointed, growing very thick together on the stalk without any regular order, smooth, and of a blueish colour.

FLOWERS yellow, with the palate of an orange or saffron colour, placed one over another in thick spikes on the top of the Stalks.

CALYX: a PERIANTHIUM divided into five segments short and continuing, the segments oval and pointed, the upper one a little longer than the rest, the two inferior ones gaping widest, *fig. 1.*

COROLLA monopetalous, ringent, and yellow, *fig. 3;* the TUBE short; the LIMB composed of two LIPS, *fig. 4;* the upper LIP bifid, the segments first bending down, afterwards turned back and closing together, *fig. 5;* the lower LIP trifid, the segments obtuse, the middle one shortest and least, *fig. 6;* the MOUTH closed by a PALATE prominent, bifid, of a saffron colour, and villous at bottom, *fig. 7.*

STAMINA: four white FILAMENTS, inclosed under the upper lip of the Corolla, two of which are shorter than the other two, at bottom villous, *fig. 9;* ANTHERÆ yellow, slightly connected together, *fig. 10.*

PISTILLUM: GERMEN roundish, STYLE filiform and white; STIGMATA obtuse.

SEED-VESSEL a CAPSULE of an oval and cylindrical shape, having two cavities, and splitting at top into several divisions, *fig. 14, 15, 16.*

SEEDS numerous, black, flat, protuberant in the middle, *fig. 17.*

Mr. Ray in his *Historia Plantarum* has collected the Authorities of several writers who speak highly of the medical virtues of this Plant. At the same time that we by no means believe in all the Virtues which are attributed to many plants by the old Authors, we would be carefull of rejecting all their accounts, particularly when there is some reason to think they may be founded in Truth, the mention of them may at least serve to excite such of the Faculty as have proper opportunities to give them a fair trial, and either reject them entirely, or bring them more generally into practice.

According to some it operates both by Stool and Urine, and so much by the latter, as to acquire among the Germans the name of *Harnkrout*. A small Glass of the distilled Water mixed with a drachm of the bark of the *Ebulus* or *Water Elder* in powder, powerfully provokes Urine, and is recommended in Dropical Cases. The distilled water or juice of the Plant put in the Eyes, takes away the redness and inflammation of them, as TRAGUS asserts from his own long observation and experience. Made into an Ointment with lard and mixed with the yolk of Egg, it takes away the violent pain arising from the Piles.

The flowers of this plant are frequently found double with two or more Spurs, and a singular variety of it which LINNÆUS calls *Peloria*, is said by Mr. HUDSON to grow about *Clapham* in Surry, this rare monstrosity we shall not fail to figure.

In its common state, the Toad Flax grows very common on banks by the road sides, which it decorates not a little by its singular and beautiful Flowers. It may with the greatest ease be cultivated in Gardens, and raised either from Seeds or Roots; the Seed is ripe at the latter end of September.





Peloria

ANTIRRHINUM LINARIA
var. *Peloria*.

The Variety of TOAD-FLAX
called *Peloria*.

The earliest account that we find of the *Peloria* is in the first volume of the *Amœnitates Academicæ* of LINNÆUS, published in 1749; it there forms a distinct thesis or dissertation, written by DANIEL RUDBERG, who enters minutely into the history of the plant, describes it fully, and illustrates it by an engraving.

The plant appears to have been first discovered in the year 1742, growing in a province of Sweden, about seven miles from Upsal, by a botanical student of the name of ZIOBERG, who gathered a specimen of it, and placed it in his herbarium, as a plant he had not before seen, ignorant at the same time of its nature and æconomy, and of the value of his discovery: in the same year Professor CELSIUS, no less celebrated for his knowledge of plants than of languages, happening to look over Mr. ZIOBERG's collection, was immediately struck with the extraordinary appearances of this novelty; but the state it was in, being dry and stuck on paper, prevented him at that time from examining it to the extent he wished. In a short time the Professor had an opportunity of shewing it to LINNÆUS, who after looking at it with great attention, proclaimed it to be a specimen of *Antirrhinum Linaria*, with the flowers, as he suspected, of some exotic, stuck on it, instead of its own; such deceptions are well known to be sometimes practised, but on opening one of the flowers, he was convinced that his suspicions were unfounded: he now became impatient to possess the living plant, roots of which, at his request, were sent him by Mr. ZIOBERG, and planted in the botanic garden at Upsal, but did not succeed; these would have been replaced in 1743, but the plants where they originally grew had been obliterated by cattle: the same injury befel them in 1744, so that it is probable LINNÆUS did not enjoy the pleasure he so ardently wished for, of seeing it blossom; and there is reason to conclude, that both the description and figure in the *Amœn. Acad.* were taken from ZIOBERG's dried specimen, which will in some degree apologise for the inaccuracy of both; that of the former we shall have occasion to mention in the sequel of this account.

Since the above dissertation was published, the *Peloria* has been found wild in various parts of Germany, and also in this our island. Mr. HUDSON, in the first edition of his *Flora Anglica*, mentions it as growing near Clapham, Surrey: but as no botanist has observed it there since that publication, and as in the second edition of the said work the fact is no longer noticed, we may reasonably conclude that Mr. HUDSON was mistaken.

In the year 1792, Mr. ORDOYNO, Nurseryman at Newark-upon-Trent, most obligingly sent me some roots of this plant, found growing wild by Mr. LEIGHTON, of Brocklesby, near Brigg in Lincolnshire, in some woods belonging to Mr. PELHAM; these were planted in a pot, and flowered with me sparingly in 1793: this summer, 1794, in the beginning of August, they produced a great number of flowering stems, and flowers in abundance, every one of which was true to its character; but though the parts of fructification were perfect, no seed-vessels were formed; its failure in this respect I attribute to my keeping the plant in too sheltered a situation, as a plant from the same root growing in a pot at Mr. VERE's, Brompton Park-House, Kensington-Gore, under the management of his gardener WILLIAM ANDERSON, produced two perfect seed-vessels, containing many to all appearance well-conditioned seeds: we may observe that the flowers of the *Linaria* itself are rarely fertile, unless the plant be exposed to an open sunny aspect.

When the *Peloria* was first published in the *Amœnit. Acad.* LINNÆUS regarded it as a new genus, the characters of which are there described, he was inclined to think that it might be a hybrid plant, generated betwixt the LINARIA, and some other unknown vegetable; the sexuality of his system often led the great LINNÆUS to indulge in whims of this sort, in the *Sp. Pl. ed. 3.* we find him to have relinquished the opinion of its being a distinct genus*, but still adhering to his favourite idea of hybridity, now, as far as relates to this plant, very generally exploded. Prof. MURRAY has observed, that the flowers of the genus *Antirrhinum* are peculiarly subject to monstrosity; we ourselves have frequently seen the flowers of the common Toad-Flax with two or three spurs, and those of the *majus* having a tendency to a *Peloria*-like appearance, but never to assume the regularity which constitutes the beauty and extreme singularity of that plant; there is, however, no appearance in the structure of the flowers of the *Peloria* but what may be traced to those of the *Linaria*, of which they certainly are a most wonderful modification, and hence there does not appear to be the least necessity for having recourse to any preternatural sexual intercourse to explain this extraordinary phenomenon.

The monstrosity in the *Peloria* appears to be confined wholly to the Corolla with its attendant Stamina, which is hereby rendered a species of *Flos multiplicatus*, there is nothing in the other parts of the plant to distinguish it from the common Toad-Flax; that the difference in the flowers of the two plants might be more obviously seen, we have had a flower of the *Linaria* engraved on the same plate, fig. 7. this in *Peloria* is so metamorphosed as scarcely to retain one original feature; the calyx, fig. 1. varies but little, not at all in the number of its divisions; the Corolla from being irregular becomes regular, below it is dilated, above contracted, so as to form a tubular kind of neck, terminating in a prominent circular rim, which rolls back and is divided into five regular short somewhat obtuse segments, fig. 2. the mouth is internally villous, and puckered up so as to become impervious; instead of one depending spur-like Nectary, there are five, springing from the base of the Corolla, fig. 3. and spreading out almost horizontally; the Stamina are increased from four to five, fig. 4. these most assuredly are attached to the Corolla, notwithstanding LINNÆUS's assertion that they are *nullo modo corollæ affixa*, for on pulling off the Corolla, which easily separates from the receptacle in the living plant, they come away with it; no very material alteration takes place in the form of the Filaments, or Antheræ, fig. 5. nor does the Pistillum appear to partake of the monstrosity, fig. 6. hence there is no physical cause for that sterility, which most of the authors who have mentioned this plant attribute to it.

We regret extremely that we cannot as yet give a satisfactory answer to the Linnæan Quere in the *Amœn. Acad. an ex Peloriæ seminibus Linaria unquam enascatur*; we think it highly probable that the seeds of the *Peloria* will produce plants both of common Toad-Flax and *Peloria*, perhaps some bearing flowers common to both, such as HALLER relates to have been observed by FABRICIUS; but this important fact remains to be ascertained by actual experiments; with such we are now engaged, and shall not fail taking the earliest opportunity of laying the result of them before our readers, when we treat of the *Antirrhinum majus*.

The *Peloria*, like the *Linaria*, increases greatly by its roots, like that plant it succeeds best in a dry soil and exposed situation, and no plant thrives better in a pot.

LINNÆUS derives the name of this lusus from the greek word *πίεω* which signifies any thing monstrous; hence APOLLONIUS RHODIUS calls a monstrous birth *πίεω τέκος*.

* *Linariæ proles hybrida*—genus proprium constitueret nisi fructus semper abortiret—naturæ prodigium, *Linn. Sp. Pl. ed. 3.*





Schrophularia aquatica.

SCHROPHULARIA AQUATICA. WATER-FIGWORT, or WATER-BETONY.

SCHROPHULARIA *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Cal. quinquefidus. Cor. subglobosa, refupinata. Caps. bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

SCHROPHULARIA *aquatica* foliis cordatis obtusis petiolatis decurrentibus, caule membranis angulato racemis terminalibus, *Lin. Syst. Vegetab. p. 468. Sp. Pl. p. 864.*

SCHROPHULARIA caule alato quadrangulo paniculato, foliis ovato lanceolatis. *Hall. Hist. 326.*

SCHROPHULARIA *aquatica. Scopoli Fl. Carn. n. 776.*

SCHROPHULARIA *aquatica major. Baub. Pin. 235.*

BETONICA *aquatica. Ger. emac. 715.*

BETONICA *aquatica major. Parkinson. 613. Raii Syn. 283. Water-Betony, but more truly Water-Figwort. Hudson Fl. Angl. p. 275. Lightfoot Fl. Scot. p. 329.*

RADIX perennis, crassa, fibris numerosis, majusculis, longis, albis, donata.

CAULIS tripedalis, ad orgyalem, erectus, ramosus, lævis, quadrangularis, purpureus, angulis alatis; rami foliosi, cauli similes.

FOLIA petiolata, opposita, distantia, decurrentia, subconnata, cordato-oblonga, subinde appendiculata, obtusa, venosa, crenata, nuda.

FLORES paniculato-spicati, terminales.

RAMI paniculae oppositi, trichotomi, bractea lanceolata suffulti, pedunculis lateralibus, multifloris, bracteatibus, subviscidis, intermedio solitario.

CALYX: PERIANTHIUM monophyllum, quinquefidum, persistens, laciniis corollae brevioribus, rotundatis, membranâ fusca lacerâ marginatis, *fig. 1.*

COROLLA monopetala, inæqualis, atro-rubens. *Tube globosus, magnus, inflatus, fig. 2. Limbus quinquepartitus, laciniis duabus majoribus suberectis, rotundatis, fig. 3. cum intermedia squamula labrum parvum mentiente subiecta, fig. 4. duabus lateralibus patulis, fig. 5. tertia minima subinvoluta, fig. 6.*

STAMINA: FILAMENTA quatuor, alba, linearia, subviscida, declinata, longitudine corollae, quorum duo seriora. ANTHERÆ didymæ, flavæ, *fig. 7, 8.*

PISTILLUM: GERMEN subconicum, glandula nectarifera cinctum, *fig. 9, 10. STYLUS subulatus, apice subincurvatus, fig. 11. STIGMA obtusum, flavum, fig. 12.*

PERICARPIUM: CAPSULA subrotunda, acuminata, bilocularis, bivalvis, dissepimento e marginibus valvularum inflexis constructo, apice dehiscens, *fig. 13.*

SEMINA plurima parva, fusca.

RECEPTACULUM unum, subrotundum in utrumque loculamentum se insinuans.

ROOT perennial, thick, furnished with numerous, large, long, white fibres.

STALK from three to six feet in height, upright, branched, smooth, four-cornered, purple, the angles winged, branches leafy, like the stalk.

LEAVES standing on foot-stalks, opposite, remote from each other, uniting in some degree at the base, current, oblong heart-shaped, having sometimes little appendages, obtuse, veiny, crenated, and smooth.

FLOWERS terminal, growing in a panicle-like spike.

BRANCHES of the panicle opposite, trichotomous, supported by a pointed floral-leaf, flower-stalks lateral, many-flowered, furnished with floral leaves, somewhat viscid, the middle one solitary.

CALYX: a PERIANTHIUM of one leaf, divided into five segments and permanent, the segments shorter than the corolla, round and edged with a ragged brown membrane. *fig. 1.*

COROLLA monopetalous, unequal, of a deep red colour. *Tube globular, large inflated, fig. 2. Limb deeply divided into five segments, the two uppermost of which are largest, somewhat upright, and rounded, fig. 3. with an intermediate little scale like a small lip placed underneath them, fig. 4. the two side ones spreading, fig. 5. the third very minute and rolled up, fig. 6.*

STAMINA: four white, linear, slightly viscid FILAMENTS, inclining downwards, the length of the corolla, two of which are later than the others. ANTHERÆ double and yellow, *fig. 7, 8.*

PISTILLUM: GERMEN somewhat conical, supported by a nectareous gland, *fig. 9, 10. STYLE tapering, bending downwards a little at the top, fig. 11. STIGMA blunt and yellow, fig. 12.*

SEED-VESSEL a roundish pointed CAPSULE, of two cavities and two valves, partition formed by the edges of the valves turning in, opening at top.

SEEDS numerous, small, and brown.

RECEPTACLE single, roundish, insinuating itself into each cavity or cell.

The name of *Water-Betony* (by which this plant is, perhaps, more generally better known than by its other name of *Water-Figwort*) has been assigned it from the great similitude which its leaves bear to those of the *Wood-Betony*; but as it differs from it totally in its fructification, and consequently in its generic character, the latter name is certainly to be preferred.

In its usual state of growth it has little to recommend it as an ornamental plant; but when variegated, few exceed it in beauty. In this state it is not uncommon in the nurseries about *London*.

It grows naturally by the sides of rivers, ponds, and wet ditches; and flowers from *June to September*.

Medicinally the leaves of this species are recommended for the same purposes of those of the *Schrophularia nodosa*, to which they have by some been preferred: in taste and smell they are similar, but weaker. Mr. MARCHANT reports, in the Memoires of the French Academy, that this plant is the same with the *Iquetia* of the Brazilians, celebrated as a specific corrector of the ill flavour of *Sena*. On his authority the *Edinburgh College*, in their common infusion of that drug, directed two-thirds its weight of the *Water-figwort* leaves to be joined; but as they have now discarded this ingredient, we may presume that it was not found to be of much use. *Lewis's Mat. Med. Ed. Aikin, p. 598.*

The disagreeable smell which attends this plant when bruised makes it rejected by cattle in general; nevertheless, both its leaves and flowers are much resorted to by different kinds of insects. The *Tenthredo Schrophulariæ* *Lin.* feeds on its foliage, both in its caterpillar and perfect state. The beautiful caterpillar of the *Phalena Verbasci* feeds on this plant as well as on the *Mullein*. Both bees and wasps collect great quantities of honey from its flowers, and as these continue to be produced for a great length of time, it is one of those plants which perhaps may be made to grow near bee-hives with advantage.





Digitalis purpurea.

DIGITALIS PURPUREA. FOX-GLOVE.

DIGITALIS *Linnaei Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

Cal. 5-partitus. *Cor.* campanulata 5-fida, ventricosa. *Caps.* ovata bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

DIGITALIS *purpurea* calycinis foliolis ovatis acutis, corollis obtusis : labio superiore integro. *Linnaei Syst. Vegetab.* p. 570. *Sp. Pl.* p. 866.

DIGITALIS foliis calycinis ovatis, galea simplici. *Haller. hist.* p. 143. n. 330.

DIGITALIS *purpurea.* *Scopoli Fl. Carniol.* p. 447. n. 780.

DIGITALIS *purpurea* folio aspero. p. 243.

DIGITALIS *purpurea.* *Gerard. emac.* 790.

DIGITALIS *purpurea vulgaris.* *Parkinson* 1653. *Raii. Syn.* p.* 283. Purple Fox-glove. *Hudson Fl. Angl.* p. 240. *Oeder Fl. Dan Icon.* 774.

RADIX biennis, fibrosa.

CAULIS tripedalis ad orgyalem, simplex, erectus, foliosus, teres, pubescens.

FOLIA ovato-acuta, serrata, venosa, subtus albida, pubescentia ; PETIOLI breves, alati.

FLORES spicati, nutantes, imbricati, secundi.

PEDUNCULI uniflori, pubescentes, apice incrassati, peractâ florentiâ suberecti.

CALYX: PERIANTHIUM quinquepartitum, laciniis ovato-acuminatis, nervosis, supremâ angustiore, fig. 1.

COROLLA monopetala, subcampanulata, purpurea, internè ocellata ; TUBUS magnus, patens, deorsum ventricosus, basi cylindracea, arcta ; LIMBUS parvus, quadrifidus, laciniâ superiore integra, quasi truncata, inferiore majore, inflexa.

STAMINA: FILAMENTA quatuor basi Corollæ inserta, alba, apice paululum latiora, basi infracta, quorum duo longiora ; ANTHERÆ primum magnæ, turgidæ, ovatæ, basi coadunatæ, lutescentes, et sæpe maculatæ ; demum et formâ et sitû mire mutantur, fig. 2, 3, 4.

PISTILLUM: GERMEN subconicum, luteo-virens ; STYLUS simplex ; STIGMA bifidum, fig. 5, 6, 7.

NECTARIUM GLANDULA basin Germinis cingens, fig. 8.

PERICARPIUM: CAPSULA ovato-acuminata, bilocularis, bivalvis, valvulâ inferiore findente, fig. 9.

SEMINA plurima, nigricantia, parva, utraque extremitate truncata, fig. 10.

ROOT biennial and fibrous.

STALK from three to six feet high, simple, upright, leafy, round, and pubescent or downy.

LEAVES of a pointed oval shape, serrated, veiny, underneath whitish and pubescent ; the FOOT-STALKS short and winged.

FLOWERS growing in a spike, pendulous, laying one over another all one way.

PEDUNCLES sustaining one flower, pubescent, thickest at top, after the flower drops off, becoming nearly upright.

CALYX: a PERIANTHIUM divided into five segments, which are of an oval pointed shape, and nervous, the uppermost narrower than the rest, fig. 1.

COROLLA monopetalous, somewhat bell-shaped, purple, and marked in the inside with little eyes ; the TUBE large, spreading, bulging out backwards ; the base cylindrical, and as if it had been tyed with a ligature ; the LIMB small and quadrifid, the upper segment entire and as if cut off, the lower segment larger and bent in.

STAMINA: four FILAMENTS inserted into the bottom of the Corolla, white, a little broadest at top, crooked at bottom, two long and two short ; ANTHERÆ at first large, turgid, oval, touching at bottom, of a yellowish colour and often spotted ; lastly changing both their form and situation in a singular manner, fig. 2, 3, 4.

PISTILLUM: GERMEN rather conical, of a yellow green colour ; STYLE simple ; STIGMA bifid, fig. 5, 6, 7.

NECTARY a GLAND surrounding the bottom of the Germen, fig. 8.

SEED-VESSEL: a pointed oval CAPSULE, of two cavities and two valves, the lowermost valve splitting in two, fig. 9.

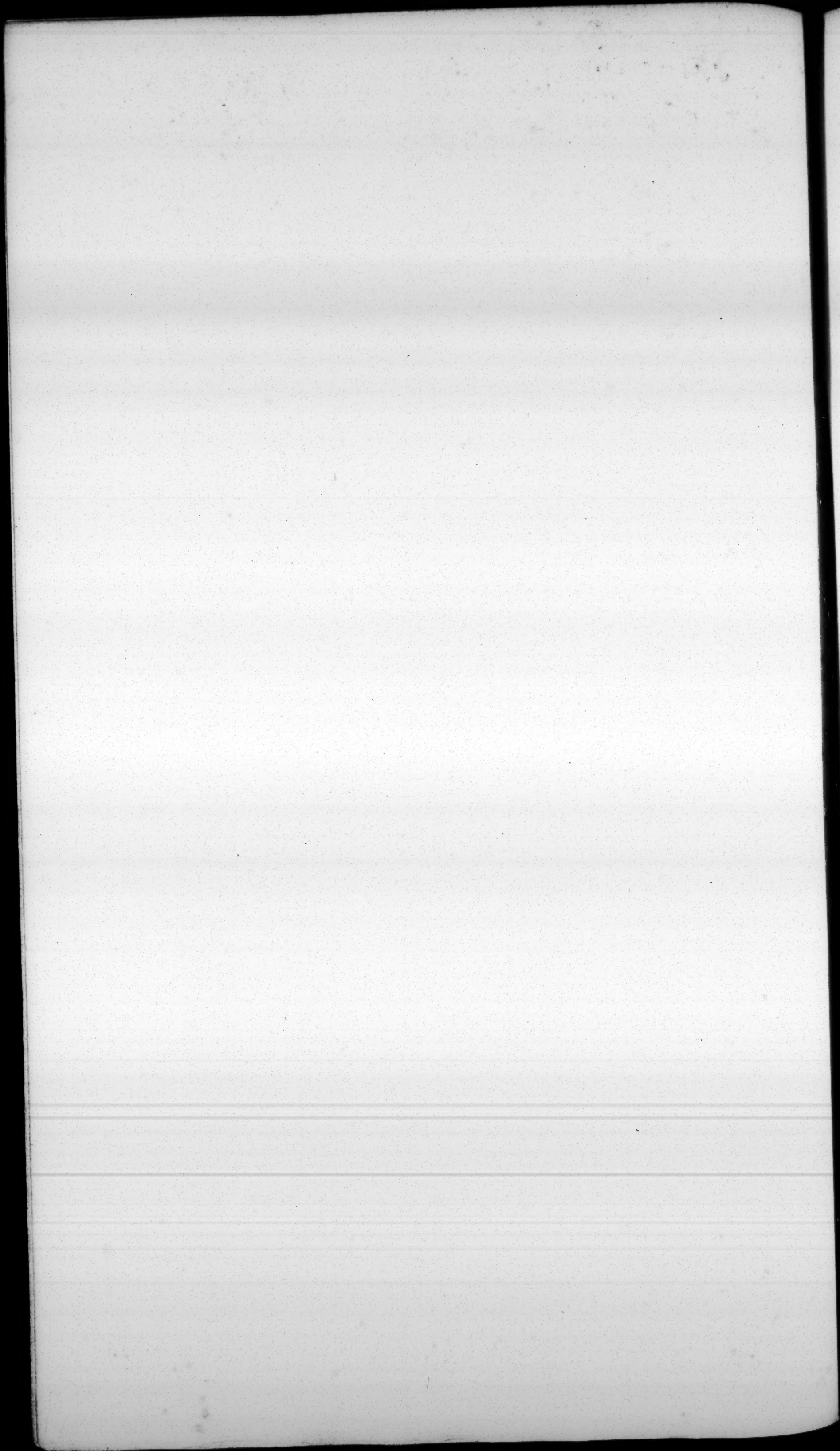
SEEDS numerous, blackish, small, as if cut off at each end, fig. 10.

Was it not that we are too apt to treat with neglect the beautiful plants of our own country, merely because they are common and easily obtained, the stately and elegant *Fox-glove* would much oftener be the pride of our gardens than it is at present ; for it is not only peculiarly striking at a distance, but its flowers and their several parts become beautiful in proportion to the nearness of our view : How singularly and how regularly do the blossoms hang one over another ! How delicate are the little spots which ornament the inside of the flower ! and like the wings of some of our small Butterflies smile at every attempt of the Painter to do them justice : how pleasing is it to behold the nestling Bee hide itself in its pendulous blossoms ! while extracting its sweets which furnish our tables with honey, and our manufacturers with wax : nor are the more interior parts of the flower less worthy of our admiration, or less adapted to the improvement of the young Botanist : here all the parts of the fructification being large, he will readily obtain a distinct idea of them ; but more particularly of the form of the Antheræ, and the alteration which takes place in them, previous to and after the discharge of the Pollen. *vid. fig. 3, 4.*

The flowers of this plant are in general of a fine purple colour, and like all other purple flowers are liable to variations ; sometimes we find the blossoms of a milk white or cream colour, and some other varieties of it are mentioned by RAY, but the white is the most common. Such as would wish to cultivate it, may raise it either from seed, which is very small for the size of the plant, or from young plants. It grows naturally in a dry and gravelly soil, and in such situations is common enough over most parts of England ; about *Charlton-Wood* it is very plentiful, and flowers in July and August.

According to the testimony of many writers, the juice or decoction of this plant taken inwardly, acts as an emetic and purgative, and that too with considerable violence ; hence Mr. RAY very properly advises it to be given to such only as have robust constitutions. PARKINSON affirms that it is very efficacious in the cure of the Epilepsy ; but he unites with it in his prescription *Polypody of the Oak*, so that there is no knowing to which of the plants the merit of curing this stubborn disease is due.

The flowers or herb either bruised or made into an ointment, are strongly recommended in Schrophulous tumours and ulcers ; and so great an opinion have the Italians of its virtues as a vulnerary, that they have the following proverb concerning it. "*Aralda tutte le piaghe salda.*" Fox-glove cures all wounds. *Raii Hist. Plant.*







Draba verna

DRABA VERNA. VERNAL DRABA OR WHITLOW GRASS.

DRABA *Linnaei Gen. Pl. TETRADYNAMIA SILICULOSA.*

Raii Synop. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

DRABA *verna* scapis nudis, foliis subferratis. *Linnaei Syst. Vegetab. p. 489. Flor. Succ. p. 223.*

DRABA cauliculis nudis, foliis subhirsutis, subdentatis. *Haller. hist. helv. 1. 215.*

BURSA PASTORIS minor loculo oblongo. *Baubin. pin. 108. 2.*

PARONYCHIA vulgaris. *Gerard emac. 624. Raii Syn. 292. Hudson Fl. Angl. 243. Scopoli Flor. Carniol. n. 792.*

RADIX fibrosa, annua.

CAULES nudi, palmares, 1 ad 5 aut plures in solo fertili ex eadem radice nascuntur.

FOLIA ovato-lanceolata, basi angustiora integra et subferrata, (ferra nisi unica aut duo, raro plures) super terram expansa, scabriuscula, hirsuta, pili bi-trifurci.

PEDUNCULI alterni, uniflori.

CALYX: PERIANTHIUM tetraphyllum, foliolis erectis, concavis, gibbis, obtusis, subhirsutis. *fig. 1.*

COROLLA tetrapetala, petala alba, calyce duplo longiora, bipartita. *fig. 2.*

STAMINA: FILAMENTA sex incurvata, quorum 4 longitudine Pistilli 2 breviora; ANTHERÆ flavæ. *fig. 3. 4.*

PISTILLUM: GERMEN ovatum, compressum; STYLUS vix ullus; STIGMA capitatum, planum. *fig. 5.*

PERICARPIUM: SILICULA ovata, compressa, brevi mucrone obtuso terminata, bilocularis, bivalvis, valvulis plano-concavis. *fig. 6.*

SEMINA plura, ovata, fusca, margini DISSEPIMENTI affixa. *fig. 8. 9.*

ROOT fibrous and annual.

STALKS naked, about three inches high, one to five and frequently more, if the soil be rich, spring from the same root.

LEAVES of an oval pointed shape, narrower at bottom, some of them entire, and others a little serrated, or indented, (seldom more than one or two indentations in a leaf,) spreading on the ground, roughish, hirsute, some of the hairs bifurcate, others trifurcate.

PEDUNCLES alternate, uniflorous.

CALYX: a PERIANTHIUM of four leaves, which are upright, hollow, gibbous, obtuse, and somewhat hairy, *fig. 1.*

COROLLA tetrapetalous, the PETALS white, twice the length of the Calyx, and bipartite, *fig. 2.*

STAMINA: six FILAMENTS which bend inward, 4 long the height of the Pistillum, and 2 short; the ANTHERÆ yellow, *fig. 3. 4.*

PISTILLUM: The GERMEN oval and flat; STYLE scarce any; STIGMA a small head flat at top.

SEED-VESSEL a short oval pod, flat, and terminated by a short blunt point, having two Cavities and two Valves, the Valves slightly concave, *fig. 6.*

SEEDS several, oval, brown, fixed to the edge of the DISSEPIMENT or Partition, *fig. 8. 9.*

ON Walls, dry Banks, and in barren Fields, the white blossoms of this diminutive plant, are very conspicuous in the months of March and April, a season when any kind of blossom is viewed with pleasure, as it cannot fail to excite the pleasing reflection that the season is approaching when

“ All that is sweet to smell, all that can charm
Or eye or ear, bursts forth on every side
And crowds upon the senses.”

Linnaeus informs us that in Smoland a Province of Sweden, they sow their Rye when this plant is in blossom, and that in the night time and in wet weather its flowers droop.

Galen says that *Paronychia* or *Whitlow Grass* has its name from its properties, for it heals Whitlows; but Commentators are much in doubt concerning the plant itself. From the account of the Antients, it appears that it is a different plant from what we are now describing; some have fixed on Wall Rue, (*Asplenium Ruta muraria*,) others on a plant resembling Spurge, such is the confusion that arises from imperfect descriptions.

IV

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Thlaspi Bursa-Pastoris.

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THLASPI BURSA PASTORIS. SHEPHERD'S PURSE.

THLASPI *Linnaei Gen. Pl.* TETRADYNAMIA SILICULOSA.

Silicula emarginata, obcordata, polysperma: valvulis navicularibus, marginato-carinatis.

Raii Syn. Gen 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

THLASPI *Bursa pastoris* filiculis obcordatis, foliis radicalibus pinnatifidis. *Linnaei Syst. Vegetab.* p. 491.

Spec. Pl. 903. *Fl. Suecic.* 227.

NASTURTIIUM filiquis triangularibus, *Haller hist.* v. 1. p. 221

PASTORIA BURSA *Fuschii icon.* 611.

BURSA PASTORIS major folio finuato. *Baubin Pin.* 108. *Gerard emac.* 276. *Parkinsoni Theat.* 866.

Raii Syn. 306. *Hudson. Fl. Angl.* 247. *Scopoli. Fl. Carniol.* v. 2. 17.

RADIX annua, fibrosa, albida.

CAULIS pedalis, erectus, ramosus, teres, subasper.

FOLIA *radicalia* hirsutula, pinnatifida, laciniis quoad formam mire variantibus, *caulina* amplexicaulia, dentata.

PEDUNCULI uniflori, demum fere horizontales.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, subpilosis, margine membranaceis, *fig.* 1.

COROLLA: PETALA quatuor alba, calyce paulo longiora, apice rotundata, *fig.* 2.

STAMINA: FILAMENTA sex, alba, quorum quatuor longitudine Styli, duo breviora incurvata; ANTHERÆ flavæ, *fig.* 3.

PISTILLUM: GERMEN oblongo-cordatum; STYLUS brevissimus; STIGMA villosum, *fig.* 4.

PERICARPIUM: SILICULA lævis, obcordata, bivalvis, *fig.* 5.

SEMINA plurima, pedicellata, flavescentia, margini Dissepimenti affixa, *fig.* 6.

DISSEPIMENTUM utrinque acutum Valvis contrarium.

ROOT annual, fibrous and whitish.

STALK about a foot high, upright, branched, round, a little prickly.

LEAVES: *radical leaves* slightly hirsute, pinnatifid, the laciniæ or jags varying exceedingly in their form; the upper leaves embracing the stalk, and indented at the edges.

PEDUNCLES, supporting one flower on each, nearly horizontal when the flowers are gone off.

CALYX: a PERIANTHIUM of four leaves, the leaves oval, hollow, slightly hairy, and membranous at the edges, *fig.* 1.

COROLLA: four white PETALS, a little longer than the Calyx, round at top, *fig.* 2.

STAMINA: six white FILAMENTS, four of which are of the same length as the Style; two are shorter and bent a little inwards: ANTHERÆ yellow, *fig.* 3.

PISTILLUM: GERMEN of an oblong heart-shape; STYLE very short; STIGMA villous, *fig.* 4.

SEED-VESSEL; a short smooth pod, triangular or heart-shaped, with two valves, *fig.* 6.

SEEDS numerous, of a yellowish colour, standing on little foot-stalks, which connects them to the edge of the Dissepimentum or Partition, *fig.* 6.

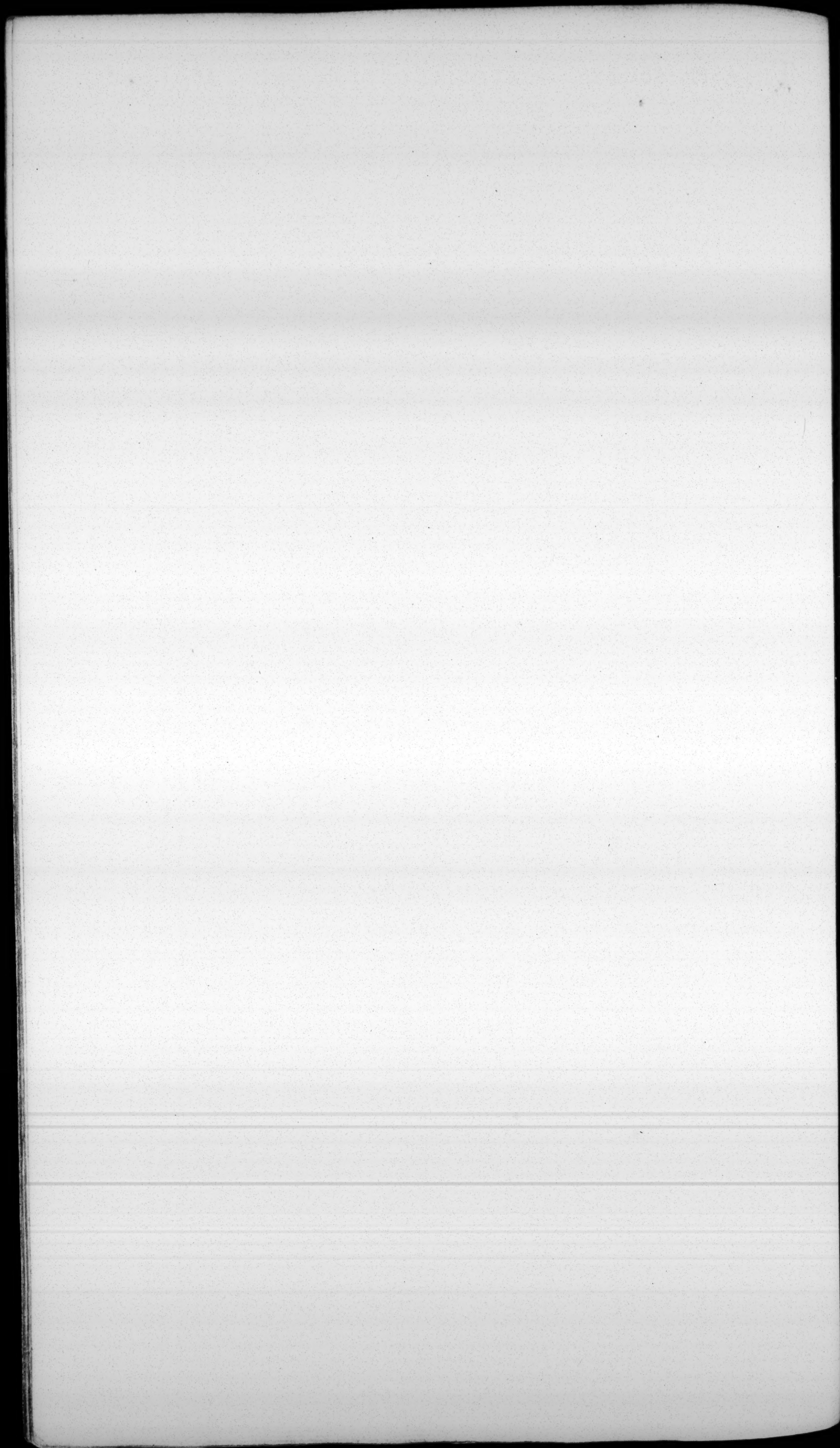
PARTITION pointed at both ends, placed cross-ways to the Valves.

THE radical leaves of this plant differ so exceedingly in their appearance, that the most expert Botanist is often obliged to have recourse to its most striking character, the shape of its Seed-vessels, before he can with certainty distinguish it. When it grows on walls and in dry situations, the leaves are more deeply divided, and the Laciniæ become much narrower; in cultivated ground they are broader and less jagged: It differs likewise no less with respect to its size, sometimes being not more than two or three inches high, and at other times as many feet.

March and April are the months in which it is found most generally in blossom, yet like the *Groundsel* and *Poa annua*, it may be found in this state at almost any time of the year,

It acquires its name of *Shepherd's Pouch* or *Purse*, from the particular shape of its pods, by which it is obviously distinguished from all our other Tetradyamous plants.

The plant is collected and given to small birds, who appear to be very fond of the seeds, and this is the only use to which we at present know of its being applied.







Thlaspi

arvense.

THLASPI ARVENSE. PENNY-CRESS.

THLASPI *Lin. Gen. Pl.* TETRADYNAMIA SILICULOSA.

Silicula emarginata, obcordata, polysperma, valvulis navicularibus, marginato-carinatis.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

THLASPI *arvense* filiculis orbiculatis, foliis oblongis dentatis glabris. *Lin. Syst. Veget. ed. 14. p. 587. Spec. Pl. 901. Fl. Suec. 574.*

NASTURTIUM filiquis orbiculatis, planis, foliis oblongis, dentatis, glabris. *Hall. Hist. 511.*

THLASPI *arvense. Scop. Fl. Carn. n. 810.*

THLASPI *arvense* filiquis latis. *Bauh. p. 105.*

THLASPI *Dioscoridis. Ger. emac. 262. Drabæ folio. Park. 836. Raii Syn. 305. Treacle-Mustard. Penny-Cress. Hudf. Fl. Angl. 281. Lightfoot Fl. Scot. 340.*

RADIX annua, fusiformis, subramosa, lignosa, al-bida.	ROOT annual, tapering, somewhat branched, woody, and whitish.
CAULIS pedalis et ultra, erectus, multangulus, tere-tiusculus, superne ramosus, ramis paucis, caule brevioribus, erectis, subarcuatis.	STALK a foot or more in height, upright, multangu-lar, roundish, above branched, the branches few, shorter than the stalk, upright, bending a little inwards.
FOLIA alterna, oblonga, obtusiuscula, remote den-tata, dentibus apice albidis, basi sagittata, supra viridia, subtus glaucescentia.	LEAVES alternate, oblong, a little blunt, distantl-y toothed, the teeth whitish at the tip; arrow-shaped at the base, above green, beneath somewhat glaucous.
FLORES racemosi, parvi.	FLOWERS small, growing in racemi.
PEDUNCULI alterni, fere horizontales, uniflori.	FLOWER-STALKS alternate, nearly horizontal, one-flower'd.
CALYX: PERIANTHIUM tetraphyllum; foliolis ovatis, concavis, acutiusculis, margine alba, membranacea, fig. 1.	CALYX: a PERIANTHIUM of four leaves, the leaves ovate, concave, somewhat pointed, the edge white, and membranous, fig. 1.
COROLLA: PETALA 4, calyce duplo longiora, re-tusa, alba, fig. 2. auct. fig. 3.	COROLLA: 4 PETALS, twice the length of the ca-lyx, very slightly notched at the end, and white, fig. 2. magnified, fig. 3.
STAMINA: FILAMENTA sex, subulata, albidia, duo breviora, ANTHERÆ flavæ, minutæ, fig. 4. auct. fig. 6.	STAMINA: Six FILAMENTS, tapering, whitish, two shorter than the rest; ANTHERÆ yellow and minute; fig. 4. magn. fig. 6.
PISTILLUM: GERME rotundatum; STYLUS bre-vissimus; STIGMA obtusum, fig. 5. auct. fig. 7.	PISTILLUM: GERME rounded; STYLE very short; STIGMA obtuse, fig. 5. magn. fig. 7.
PERICARPIUM: SILICULA pedunculi longitudine, latissima, orbicularis, profunde emarginata, medio utrinque convexiuscula, ad latera alata, compressa, bilocularis, fig. 8, 10.	SEED-VESSEL: a SILICULE the length of the flower-stalk, very broad, orbicular, deeply notched, a little convex in the middle on each side, the sides winged and flat, bilo-cular, fig. 8, 10.
SEMINA utrinque 4 ad 9, sub-compressa, suborbicu-laria, parallele lineata, glabra, rufa, fig. 12.	SEEDS in each cell from 4 to 9, somewhat flattened, and orbicular, marked with parallel lines, smooth, of a reddish brown colour, fig. 12.
DISSEPIMENTUM lanceolatum, acutum, fig. 11.	PARTITION lanceolate, pointed, fig. 11.
VALVULÆ naviculares, fig. 9.	VALVES boat-shaped, fig. 9.

The *Thlaspi arvense* is scarcely entitled to a place in the *Flora Londinensis*, as we have only seen a few acci-dental plants of it growing near the *Spaniards, Hampstead-Heath*.

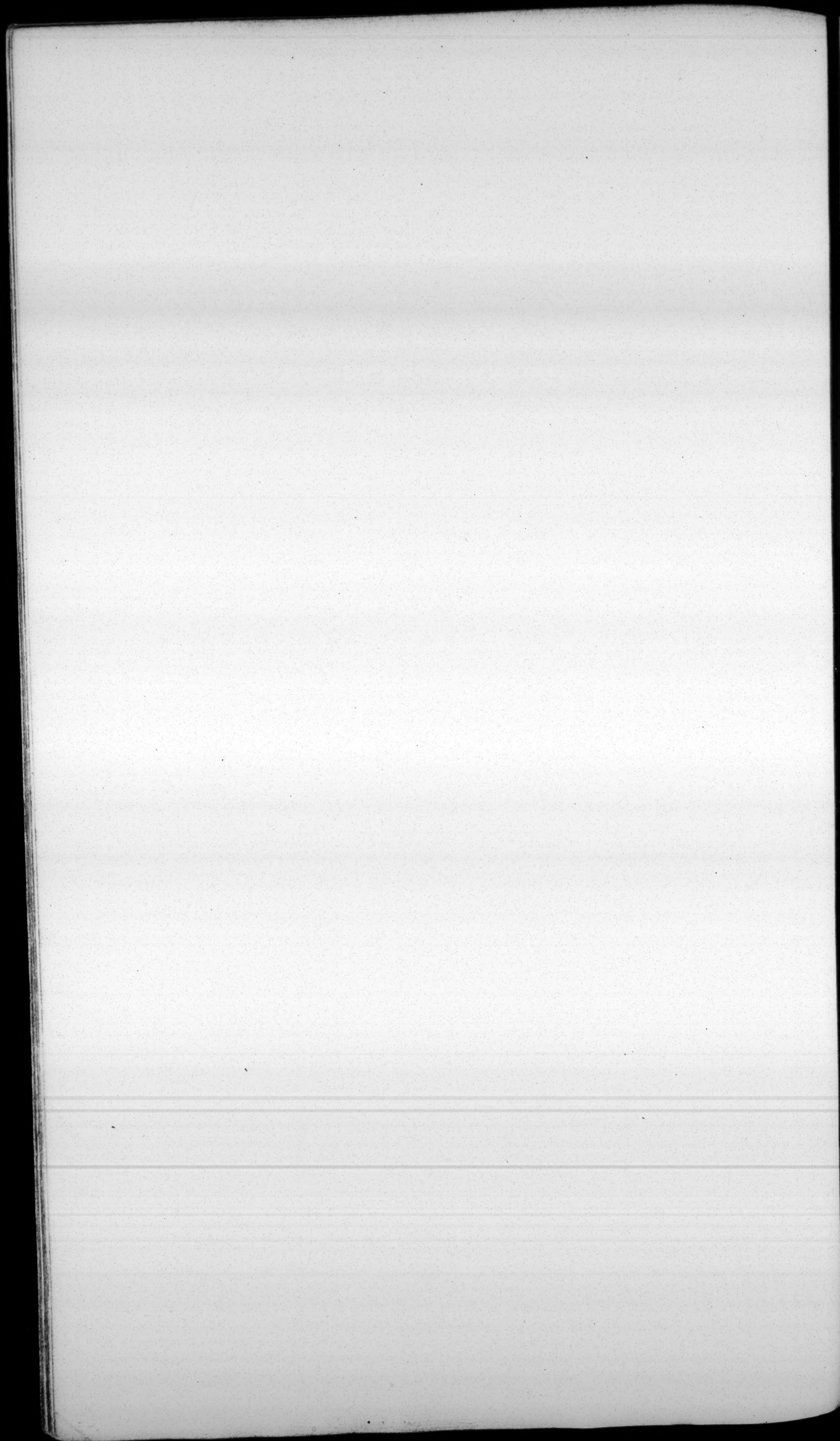
RAY informs us, that it is found in the fields about *Wormingford* in *Essex* plentifully, as also at *St. Osyth* in *Tendring Hundred*, at *Stone* in *Staffordshire*, and *Saxmundham* in *Suffolk*; to these habitats we may add, on the authority of Dr. GOODENOUGH, *Broughton Pogges* in *Oxfordshire*, in the corn fields near which it is found in abundance.

It flowers the beginning of *June*, and the seeds are ripe by the end of the month; hence they are not liable to mix and be ground with our corn, to the flower of which they might communicate the taste of garlic, which the plant is said to give to the milk of such cattle as feed on it.

It is obviously distinguished, as RAY has observed, from all our plants of the same genus, by its smoothness, and large flat round pods, whence it has very properly been called *Penny-cress*: HALLER judiciously observes, that the true seed-vessel is in the centre, and that it owes its extraordinary breadth to winged appendages, which TOURNEFORT has admirably well expressed.

The seeds are said to produce twice as much oil as linseed.

This species and the *Thlaspi Campestre* are used indiscriminately in medicine; the seeds, more especially those of the present plant, have an acrid biting taste, approaching to that of the common mustard, with which they agree nearly in their pharmaceutical properties, their pungent matter being totally extracted by water, only partially by rectified spirit, and being elevated by water in distillation. They have joined to their acrimony an unpleasant flavour, somewhat of the garlic or onion kind, and this they give out to spirituous as well as watery menstrua; they are rarely made use of any otherwise than as ingredients in the compositions whose names they bear, though some recommend them in different diseases preferably to the common mustard. *Lewis M. Med. 647.*







Thlaspi campestre.

THLASPI CAMPESTRE. MITHRIDATE MUSTARD.

THLASPI *Lin. Gen. Pl. TETRADYNAMIA SILICULOSA.*

Silicula emarginata, obcordata, polysperma: valvulis navicularibus, marginato-carinatis.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

THLASPI *campestre* filiculis subrotundis, foliis sagittatis dentatis, incanis. *Lin. Sp. Pl. p. 902. Syst. Vegetab. p. 491. Fl. Succ. n. 575.*

NASTURTIIUM foliis imis petiolatis ovatis, caulinis sagittatis dentatis. *Haller. Hist. n. 509.*

THLASPI *campestre.* *Scopoli Flor. Carn. n. 807.*

THLASPI *arvense,* Vaccariæ folio majus. *Bauh. Pin. 106.*

THLASPI *mithridaticum* five *vulgatissimum* Vaccariæ folio. *Parkins. p. 835.*

THLASPI *vulgatius.* *J. Bauh. II. p. 921.*

THLASPI *vulgatissimum.* *Ger. em. p. 262. Raii Syn. 305. Mithridate Mustard, Bastard Cresses. Hudſon. Fl. Angl. p. 281. Lightfoot Fl. Scot. p. 341.*

RADIX annua, simplex, fibrosa.

CAULIS pedalis ad sesquipedalem, erectus, teres, subangulosus, villosus, superne tantum ramosus.

FOLIA radicalia longe petiolata, oblongo-ovata, obtusa, sæpius subintegra, interdum vero basi pinnatifida, cito marcescentia, caulina sagittata, sparsa, conferta, suberecta, villosa, dentata, amplexicaulia.

FLORES minimi, albi.

RACEMI longi, erecti.

PEDUNCULI teretes, villosi, patentes, filiculis paulo longiores.

CALYX: PERIANTHIUM tetraphyllum. foliolis ovatis, obtusis, concavis, ad lentem subpilosis, marginibus et apicibus albidis, alternis paulo brevioribus et angustioribus, fig. 1.

COROLLA: PETALA quatuor, alba, calyce paulo longiora, limbo subrotundo, ungue gracili, fig. 2.

STAMINA: FILAMENTA sex, quorum duo paulo breviora. ANTHERÆ flavae, fig. 3.

PISTILLUM: GERMEN ovale, compressum, emarginatum. STYLUS brevissimus. STIGMA capitatum, fig. 4.

PERICARPIUM: SILICULA ovata, obtusa, emarginata disperma, inferne gibba, superne concava, feminibus protuberantibus, fig. 5, 6.

ROOT annual, simple, and fibrous.

STALK a foot or a foot and a half high, upright, round, very slightly angular, villous, branched at top only.

LEAVES next the root standing on long foot-stalks, of an oblong-ovate shape, for the most part nearly entire, but sometimes pinnatifid at the base, soon decaying, those of the stalk arrow-shaped, placed irregularly, numerous, nearly upright, villous, toothed, and embracing the stalk.

FLOWERS very small and white.

RACEMI long and upright.

FLOWER-STALKS round, villous and spreading, a little longer than the seed-pods.

CALYX: a PERIANTHIUM of four leaves, the leaflets ovate, obtuse, hollow, slightly hairy when magnified, the edges and tips whitish, the alternate ones shorter and narrower than the others, fig. 1.

COROLLA composed of four white PETALS, a little longer than the calyx, the limb roundish, and claw very slender, fig. 2.

STAMINA: six FILAMENTS, of which two are shorter than the rest, fig. 3.

PISTILLUM: GERMEN oval, flat, emarginate. STYLE very short. STIGMA forming a little head, fig. 4.

SEED-VESSEL: an ovate Pod, obtuse, emarginate, containing two seeds, underneath gibbous, above concave, the seeds protuberating, fig. 5, 6.

The *Thlaspi arvense* *siliquis latis* of *C. Bauhine*, and the present species, are the two whose seeds have been selected from this numerous genus for medicinal use. These appear to have been used indiscriminately; and sometimes the seeds of the common Cress (*Lepidium sativum*) have been substituted for both. Their virtues appear to be pretty similar: LUTTY prefers those of the *arvense*, as being the most active: they certainly have much more of the alliaceous taste than those of the *campestre*.

In the present practice they are rarely made use of any otherwise than as ingredients in the Venice Treacle and Mithridate, though some recommend them in different disorders, preferably to the common Mustard, with which they agree nearly in their pharmaceutic properties. *Lewis, Mat. Med. p. 647.*

The present species is not an unusual inhabitant of corn-fields; nevertheless it is rather a scarce plant with us. We have noticed it in the greatest plenty about Coomb Wood, near Kingston. Dr. GOODENOUGH informs me, it is not uncommon in Gunnerbury Lane, near Ealing.

It flowers in June, and ripens its seeds in July and August.







IBERIS NUDICAULIS. NAKED-STALKED CANDY-TUFT, or ROCK-CRESS.

IBERIS Linn. Gen. Pl. TETRADYNAMIA SILICULOSA.

Cor. irregularis, petalis 2 exterioribus majoribus. Silicula polysperma, emarginata.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

IBERIS nudicaulis herbacea, foliis sinuatis, caule nudo simplici. Linn. Syst. Vegetab. p. 589. Sp. Pl. p. 907. Fl. Succ. n. 581. Lightfoot Scot. p. 346. Hudson Fl. Angl. ed. 2. p. 285.

IBERIS foliis pinnatis, pinnis ovatis acutis. Hall. Hist. n. 521.

NASTURTIIUM minimum vernalis foliis tantum circa radicem. Magnol. Bot. Monsp. p. 187. cum fig.

BURSA PASTORIS minor foliis incisitis et Thal. Baub. p. 108.

NASTURTIIUM petraeum foliis Burfæ Pastoris. Baub. p. 104.

BURSA PASTORIS minor. Ger. emac. 251. Parkins. 806. Raii Syn. p. 303. The lesser Shepherd's Purse, or Rock-Cress.

RADIX annua, fibrosa, albida.

CAULES vix palmares; juniores decumbentes, adultiores adscendentes, demum erecti; plerumque aphylli, interdum tamen foliis aliquot vestiti, simplices, teretes, glabri.

FOLIA radicalia petiolata, plerumque prostrata, in orbem posita, paulo ultra uncialia, lævia, sinuato-pinnatifida, obtusa; lobis in quibusdam oppositis, in aliis alternis, terminali maximo, rotundato, caulina ubi adsunt sessilia, inferiora quinquefida aut trifida, superiora simplicia, lanceolata.

FLORES racemosi, parvi, albi, inodori.

PEDUNCULI femunciales, patentissimi.

CALYX: PERIANTHIUM tetraphyllum; foliolis lanceolatis, concavis, aequalibus, rufescentibus, deciduis, fig. 1.

COROLLA tetrapetala, inæqualis, calyce major; PETALA obovata, duo exteriora majora, patentia, duo interiora minora, inflexa, fig. 2.

STAMINA: FILAMENTA sex, subulata, erecta, alba, quorum duo lateralia breviora; ANTHERÆ subrotundæ, flavæ, fig. 3.

PISTILLUM: GERMEN subrotundum, compressum; STYLUS simplex, brevis; STIGMA obtusum.

PERICARPIUM: SILICULA erecta, suborbiculata, emarginata, compressa, parum concava, margine acuto cincta, bilocularis, fig. 5. dissepimento lanceolato; valvulis navicularibus, compressis, carinatis, fig. 6.

SEMINA in singulo loculo plerumque duo, subovata, fig. 7.

ROOT annual, fibrous, whitish.

STALKS scarcely a hand's breadth in height, the young ones decumbent, rising as they grow older, finally upright, generally naked, but sometimes furnished with one or more leaves, simple, round, and smooth.

LEAVES next the root, standing on footstalks, generally spread circularly on the ground, somewhat more than an inch in length, smooth, sinuated and pinnatifid, obtuse, the lobes in some opposite, in others alternate, the terminal one very large and rounded, those of the stalk (if any) sessile, the lowermost ones divided into five or three segments, the upper ones simple and lanceolate.

FLOWERS growing in racemi, small, white, and without scent.

FLOWER-STALKS half an inch long, spreading wide.

CALYX: a PERIANTHIUM of four leaves, broad lanceolate, concave, equal, reddish, and deciduous, fig. 1.

COROLLA composed of four petals, unequal, larger than the calyx; PETALS obovate, the two outer ones largest, spreading, the two inner ones least, bent in, fig. 2.

STAMINA: six FILAMENTS, tapering, upright, white, the two side ones shortest; ANTHERÆ roundish, yellow, fig. 3.

PISTILLUM: GERMEN roundish, flattened; STYLE simple, short; STIGMA obtuse.

SEED-VESSEL: an upright POD, somewhat orbicular, emarginate, flattened, a little concave, surrounded with a sharp margin, composed of two cavities, fig. 5. the partition lanceolate, the valves boat-shaped, flattened, keeled, fig. 6.

SEEDS: generally two in each cavity, subovate, fig. 7.

This diminutive plant occurs sparingly in the neighbourhood of London, and principally to the westward of it; we have found it on Hounslow-Heath, Putney, and Barnes-Common, more frequently indeed on the last, and generally on the edges of gravel-pits, where the soil has been dry and barren, and where usually grew *Gnaphalium montanum*, *Aira flexuosa*, and *Ornithopus perpusillus*.

Its flowers, which come forth in May and June, are very minute, but when magnified sufficiently distinguish the leading trait in its generic character; they are succeeded in July by seed-vessels rather large in proportion to the plant.

The stalk is not always destitute of leaves; the more luxuriant the plant, the more it is disposed to produce them: MAGNOL observes, that they are sometimes found entire on the edges.







Erysimum officinale.

ERYSIMUM OFFICINALE. HEDGE MUSTARD.

ERYSIMUM *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Sil'qua columnaris, exacte tetraëdra, Cal. clausus.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

ERYSIMUM *officinale* filiquis spicæ adpressis. *Lin. Syst. Vegetab. p. 499. Sp. Pl. p. 922. Fl. Suec. n. 598.*

ERYSIMUM foliis pinnatis, pinnis rectangulis, acutis, extrema triangulari maxima, filiquis adpressis. *Haller. Hist. 878.*

SISYMBRIUM *officinale. Scopoli Fl. Carn. n. 824.*

ERYSIMUM vulgare. *Baub. Pin. 100.*

ERYSIMUM Dioscoridis Lobelio. *Ger. em. 254.*

ERYSIMUM vulgare. *Parkin. 833.*

ERUCA hirsuta filiqua caule appressa Erysimum dicta. *Raii Syn. 298. Common Hedge-mustard. Hudon. Fl. Angl. ed. 2. p. 286. Lightfoot Fl. Scot. p. 354.*

RADIX annua, descendens, flexuosa, fibrillosa.

CAULIS pedalis ad bipedalem, erectus, teres, striatus, pubescens, scaber, ramosus, sæpius purpurascens.

FOLIA alterna, petiolata, utrinque parcius pubescentia, subtus scabra, præcipue in costa et nervis, pinnatifida, laciniis oppositis, oblongis, ferratodentatis, terminali majore, cum laciniis proximis confluenta.

RACEMI florum terminales, subrotundi; fructuum filiformes, elongati, nudi, pubescentes.

CALYX: PERIANTHIUM tetraphyllum, pallidum, foliolis linearibus ovalibus, obtusiusculis, concavis, pubescentibus, *fig. 1.*

COROLLA cruciformis, tetrapetala, fordide lutescens, petalis cuneiformibus, obtusis, venulosis, unguiculatis, calyce longioribus, *fig. 4.*

STAMINA: FILAMENTA sex, subulata, pallida, corollâ paulo breviora; quorum duo adhuc breviora. ANTHERÆ cordatæ, acutæ, subrecurvæ, *fig. 2.*

NECTARIA: Glandulæ duæ utrinque ad stamina breviora.

PISTILLUM: GERMEN cylindricum, striatum. STYLUS brevis, pubescens. STIGMA orbiculatum, planiusculum, emarginatum, altitudine fere staminum, *fig. 3.*

SILIQUÆ cylindricæ, striatæ, virides aut purpureæ, pubescentes, cauli adpressæ, *fig. 5, 6.*

SEMINA fordide lutescentia, utrinque oblique truncata, *fig. 7.*

ROOT annual, descending, crooked, and fibrous.

STALK from one to two feet high, upright, round, finely grooved, beset with numerous short rough hairs, branched, and for the most part purplish.

LEAVES alternate, standing on foot-stalks, slightly downy on each side, particularly on the midrib and nerves, pinnatifid, the segments opposite, oblong, ferrated or toothed, the end one largest, and connected with the next to it.

RACEMI of the flowers terminal, roundish; of the fruit filiform, lengthened out, naked, and downy.

CALYX: a PERIANTHIUM of four leaves, of a pale colour, linear-oval, bluntish, concave, and downy, *fig. 1.*

COROLLA cross-shaped, composed of four petals, of a dull yellow colour, wedge-shaped, obtuse, veiny, clawed, longer than the calyx, *fig. 4.*

STAMINA: six FILAMENTS, tapering, of a pale colour, a little shorter than the corolla; two of which are shorter than the rest. ANTHERÆ heart-shaped, pointed, bent somewhat upward, *fig. 2.*

NECTARIES: two Glands one on each side, placed at the base of the shorter stamina.

PISTILLUM: GERMEN cylindrical, striated. STYLE short, downy. STIGMATA round, flattish, emarginate, almost the height of the stamina, *fig. 3.*

PODS cylindrical, finely grooved, green or purple, downy and pressed to the stalk, *fig. 5, 6.*

SEEDS of a dingy yellow colour, obliquely truncated at each end, *fig. 7.*

The *Erysimum officinale* affords a remarkable instance of that diversity of appearance which the same plant may assume at different periods of its growth. View it just as it comes into blossom, and afterwards, when its flowering branches shoot out horizontally to a great length, and you will scarcely believe that it is one and the same plant.

It grows very commonly on dry banks, under walls, pales, and in waste places; and flowers from June to September.

The leaves of Hedge Mustard are said to be attenuant, expectorant, and diuretic, and stand particularly recommended against chronical coughs and hoarseness, whether humoural or occasioned by immoderate exertion of the voice. BOEL greatly commends for this purpose a compound syrup, which, as GEOFFROY observes, is not superior to a simple mixture of the expressed juice of the herb with honey; and indeed it is not very clear, whether the virtue of the honey is much improved by the Erysimum.

The herb has no smell; and its taste, at least when moderately dried, is little other than herbaceous, with somewhat of a slight saline impregnation.

The seeds of Erysimum are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker. Their acrimony, like that of mustard-seed is extracted totally by water, and partially by rectified spirit, and strongly impregnates water in distillation. *Aikin's Ed. of Lewis's Mat. Med. p. 290.*







Erysimum alliaria

Samuel Smith

ERYSIMUM ALLIARIA. SAUCE-ALONE.

ERYSIMUM *Linnaei Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Siliqua columnaris, exacte tetraëdra. Cal. clausus.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

ERYSIMUM *Alliaria foliis cordatis. Linnaei Syst. Vegetab. p. 499. Sp. Pl. p. 923. Fl. Suecic. n. 600.*

ERYSIMUM *Haller Hist. p. 208. n. 480.*

SISYMBRIUM *Alliaria. Scopoli Fl. Carn. n. 825.*

ALLIARIA *Baubin Pin. 110. Gerard emac. 796. Parkinson 112.*

HESPERIS *allium redolens. Raii Syn. 293. Jack by the Hedge, or Sauce-alone.*

Hudson. Fl. Angl. ed. 2. p. 286.

Lightfoot Fl. Scot. 186.

RADIX biennis, albida, fusiformis, plurimis fibrillis instructa.

CAULIS erectus, bi aut tripedalis, teres, lævis, substriatus, inferne purpureus, villosus, superne ramulosus.

RAMI pauci, alterni, erecti.

FOLIA alterna, petiolata, cordata, venosa, subrugosa, inferiora longius petiolata, rotundata, superiora acuta, inæqualiter dentato-ferrata.

FLORES nivei, terminales, erecti, pedunculis longitudine florum insidentes.

CALYX: PERIANTHIUM tetraphyllum, foliolis oblongis, pallide virecentibus, obtusis, deciduis, apice interne concavis, externe gibbis, fig. 1.

COROLLA: PETALA quatuor, obovata, unguiculata, unguis erectus, linearis, limbus patens, venis paucis exaratus, fig. 2.

STAMINA: FILAMENTA sex, subulata, alba, duo breviora incurvata, quatuor longiora erecta, longitudine Styli, fig. 3, 6: ANTHERÆ oblongæ, cordatæ, flavæ, incumbentes, erectæ, fig. 4, 5.

NECTARIUM: glandula rotunda solitaria utrinque ad basin Staminum longiorum, basis vero Staminum breviorum glandulâ cingitur.

PISTILLUM: GERMEN obscure tetragonum, oblongum, fig. 7: STYLUS brevissimus, fig. 8: STIGMA capitato-truncatum.

PERICARPIUM: SILIQUA biuncialis, teres, subtetragona, lineata, bilocularis, bivalvis, fig. 9.

SEMINA plurima, oblonga, fusca, nitida, striata, utraque extremitate oblique truncatâ, dissepimento utrinque nidulantia, fig. 10.

ROOT biennial, of a whitish colour, tapering, and furnished with numerous fibres.

STALK upright, from two to three feet high, round, smooth, somewhat striated, at bottom purple, and slightly hoary, at top branched.

BRANCHES few, alternate, and upright.

LEAVES alternate, standing on foot-stalks, heart-shaped, veiny, and somewhat wrinkled; the lower ones standing on long foot-stalks, and round at the tips; the upper ones pointed, and unequally toothed or fawed.

FLOWERS white, terminal, upright, standing on stalks the length of the flowers.

CALYX: a PERIANTHIUM of four leaves, which are oblong, of a pale green, obtuse, the tips internally concave, externally gibbous, fig. 1.

COROLLA: four PETALS, inversely oval, and clawed; the claw erect and linear; the limb spreading, and grooved with a few veins, fig. 2.

STAMINA: six FILAMENTS tapering, and white; the two shorter ones bending inwards; the four longer ones upright, the length of the Style, fig. 3, 6: ANTHERÆ of an oblong heart shape, yellow, incumbent, and upright, fig. 4, 5.

NECTARY, a small round single gland, placed on each side at the base of the longest Stamina; but the base of each of the shortest Stamina, is wholly furrounded by a glandular substance.

PISTILLUM: the GERMEN obscurely four corner'd, and oblong, fig. 7: STYLE very short, fig. 8: STIGMA, forming a little head, appearing as if cut off.

SEED-VESSEL: a POD about two inches long, round, obscurely quadrangular, with a fine prominent line between each angle, of two cavities and two valves, fig. 9.

SEEDS numerous, oblong, brown, shining, finely grooved, obliquely cut off at each end, and partly buried in the dissepimentum on each side, fig. 10.

THE whole of this plant, on being rubbed, discovers a strong smell of Garlic, whence its name of *Alliaria*.

Medicinally, the leaves are recommended internally, as sudorifics and deobstruents, somewhat of the nature of Garlic, but much milder; and externally, as antiseptics, in gangrenes and cancerous ulcers: *Lewis's Disp. p. 78.*

Dietically it is used in fauces; and by the country people eaten with bread and butter: *Raii Hist. Pl. et Syn.*

The seeds bruised, and put up the nostrils, are said to promote sneezing: *Raii Hist. Pl. p. 792.*

The *Curculio Alliariæ*, *Linn. Faun. Suecic. n. 580*, perforates and dwells in the stalks of this plant: *Fl. Suecic.*

If eaten by Cows, which it appears to be from LINNÆUS's experiments, it will be liable to give a disagreeable taste to the milk; should this happen, the Farmer will easily destroy it, as it is a biennial.

It grows very common by hedge sides; flowers in April and May.

SCOPOLI observes that it does not retain the generic character of an *Erysimum*, wherefore he arranges it as a *Sisymbrium*.







Raphanus Raphanistrum.

RAPHANUS RAPHANISTRUM. WILD RADISH.

RAPHANUS *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Cal. clausus. *Siliqua* torosa, subarticulata, teres. *Glandulae* melliferæ
2 inter stamina breviora et pistillum, totidem inter stamina longiora et
calycem.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

RAPHANUS *Raphanistrum* filiquis teretibus articulatis lævibus unilocularibus. *Lin. Syst. Veget. p. 504.*
Sp. Pl. 935. Fl. Suec. n. 612. Haller. Hist. n. 468.

RAPHANISTRUM segetum, flore luteo vel pallido. *Tournef. Inst. 240.*

RAPISTRUM flore luteo, siliqua glabra articulata. *Raii Syn. p. 296.*

RAPHANUS sylvestris. *Ger. emac. 240. Hudson Fl. Angl. p. 289. Lightfoot Fl. Scot. p. 362.*

RADIX annua, simplex, fibrosa, pallide fusca.

ROOT annual, simple, fibrous, and of a pale brown colour.

CAULIS pedalis ad sesquipedalem, erectus, teres, solidus, hispidus, glaucus, ad basin usque plerumque ramosus, ramis sæpe longitudine caulis, ad basin purpureis.

STALK from a foot to a foot and a half in height, upright, round, solid, hispid, glaucous, generally branched quite down to the bottom, branches often as long as the stalk, and purple at bottom.

FOLIA petiolata, pinnatifida, alterna, scabra, inferioribus pinnarum quatuor aut quinque parium, superioribus duarum triumve, omnibus obtusiuscule serratis seu dentatis, dentibus apice purpureis.

LEAVES standing on foot-stalks, pinnatifid, alternate, rough, the lowermost consisting of four or five pair of pinnæ, the uppermost of two or three, all of them obtusely serrated or toothed, the teeth purple at the tips.

FLORES pedunculati, lutei, albi, seu carnei, venis nigricantibus picti.

FLOWERS standing on foot-stalks, yellow, white or flesh-coloured, painted with blackish veins.

CALYX: PERIANTHIUM tetraphyllum, erectum, hispidulum, foliolis oblongis, parallelis, conniventibus, deciduis, basi gibbis. *fig. 1.*

CALYX: a PERIANTHIUM of four leaves, upright, a little hispid, the leaves oblong, parallel, closing together, deciduous, gibbous at the base. *fig. 1.*

COROLLA tetrapetala, cruciformis: petala alba sive lutea vel purpurascens, venosa: venis nigricantibus, obcordata, integra, patentia, sensim in unguis calyce paulo longiores attenuata. *fig. 2.*

COROLLA composed of four petals, which are white, yellow, or purplish, veined (the veins blackish) inversely heart-shaped, entire, spreading, terminating gradually in claws, a little longer than the calyx. *fig. 2.*

STAMINA: FILAMENTA sex, subulata, erecta; quorum duo opposita longitudine calycis, quatuor vero unguibus longiora. ANTHERÆ oblongæ, erectæ, sagittatæ. *fig. 3.*

STAMINA: six FILAMENTS, tapering, upright; of which two opposite ones are of the length of the calyx, and four of the length of the claws of the corolla. ANTHERÆ oblong, upright, arrow-shaped *fig. 3.*

PISTILLUM: GERMEN oblongum, ventricosum, attenuatum, longitudine staminum. STYLUS vix ullus. STIGMA capitatum, integrum. *fig. 4.*

PISTILLUM: GERMEN oblong, bellying out a little, tapering, the length of the stamina. STYLE scarce any. STIGMA forming a little head, and entire. *fig. 4.*

PERICARPIUM: *Siliqua* teres, articulata, articulis tribus ad sex et ultra, fulcatis, unilocularibus, monospermis, geniculis attenuatis, apice rostrata, rostro lineari compresso, glabra. *fig. 5.*

SEED-VESSEL a round jointed *Pod*, composed of three, six, or more joints, which are grooved, of one cavity; containing a single seed, the joints cut in, the apex terminating in a linear, flat, smooth beak. *fig. 5.*

SEMINA subrotunda, ferruginea, glaberrima, magnitudine seminum Raphani sativi. *fig. 6.*

SEEDS roundish, ferrugineous, very smooth, the size of the common garden Radish. *fig. 6.*

The present plant, in the colour of its blossom, is one of the most variable we are acquainted with, being found with white, pale-red, and yellow flowers: as the yellow is the most predominant with us, we have figured that variety.

Though the blossoms vary so widely as to colour, they are all in general striped with purplish veins; a character which contributes with several others to distinguish it from the *Sinapis Arvensis*, or *Charlock*, to which it bears no small resemblance; some of the most striking differences between these two plants we shall here enumerate.

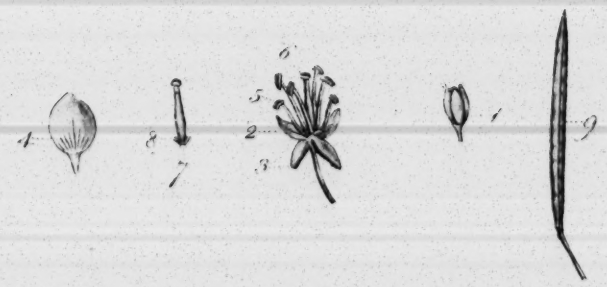
The *Charlock* usually grows one third taller than the *Radish*. The stalks, which in the *Charlock* are finely grooved, hirsute, and commonly of a deep red colour, in the *Radish* are smooth, yet hispid, and usually glaucous. The *Charlock* has often an unbranched stem; the *Radish* is more frequently branched quite down to the bottom; besides, the calyx is upright and close in the *Radish*; in the *Charlock* it is spreading. The flowers of the *Charlock* also are smaller, and always yellow.

It is a common and noxious inhabitant of Corn-fields, and flowers in *July* and *August*.

LINNÆUS has given a particular paper on this plant in the *Amanitæ Academiæ*, in which he endeavours to prove, that an epidemic spasmodic disease, common in some parts of *Sweden*, is owing to the seeds of this plant being ground with the corn and eaten by the inhabitants.







Broomrape murale

BRASSICA MURALIS. WILD ROCKET.

BRASSICA *Linnaei Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Cal. erectus, connivens. Sem globosa. Glandula inter stamina breviora et pistillum, interque longiora et calycem.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

BRASSICA *muralis* foliis lanceolatis sinuato ferratis læviusculis, caule erecto glabro. *Hudson Fl. Angl.*

p. 290.

ERUCA foliis glabris, pinnatis, pinnis linearibus difformibus. *Haller hist. n. 461.*

ERUCA sylvestris. *Matt. in Diosc. p. 531. cum icone.*

ERUCA tenuifolia perennis flore luteo. *J. B. 2. 861.*

ERUCA sylvestris. *Gerard emac. 246.*

ERUCA sylvestris vulgarior. *Parkinson. 818.*

ERUCA sylvestris major vulgarior fœtens. *Hist. Ox. II. 230. Raii Syn. p. 296. Wild Rocket.*

RADIX perennis, sublignosa, intra muros profunde penetrans, vix evellanda.

CAULIS sesquipedalis, erectus, ramosus, teres, basi sublignosus, perennans.

FOLIA pinnatifido-laciniata, glabra, patentia, odoris ingrati.

CALYX priusquam flores aperiuntur quasi bicornis, cornibus brevibus, pilo uno, alterove instructis; flore aperto tetraphyllus, foliolis oblongis, concavis, duobus cum apicibus gibbosis deorsum tendentibus, duobus erectis. *fig. 1. 2. 3.*

COROLLA: PETALA quatuor, majuscula, calyce duplo longiora, unguiculata, erecta, flava. *fig. 4.*

NECTARIUM: Glandulae quatuor, duo extra basin filamentorum præter morem longæ, apice extorsum incurvatae, duo intra basin filamentorum breviora, subrotunda. *fig. 7. 8.*

STAMINA: FILAMENTA sex, quorum duo breviora, subulata, erecta, flavescentia; ANTHERÆ incumbentes, subfagittatae. *fig. 5.*

PISTILLUM: GERMEN oblongum, tenue; STYLUS brevissimus; STIGMA capitatum. *fig. 6.*

PERICARPIUM: Siliqua sesquiuncialis, teres, utrinque linea prominenti notata. *fig. 9.*

SEMINA plurima, minuta, fusca, subovata, compressiuscula.

ROOT perennial, somewhat woody, penetrating deep into the walls, scarcely to be pulled out.

STALK a foot and a half high, upright, branched, round, at bottom somewhat woody and perennial.

LEAVES pinnatifid and jagged, smooth, spreading, of a disagreeable smell.

CALYX before the flowers are expanded has the appearance of having two horns, which are short, and furnished with one, or two hairs; on the expansion of the petals, it is composed of four, oblong, hollow leaves, two of which, being gibbous at top hang down, and the other two stand upright. *fig. 1. 2. 3.*

COROLLA four PETALS, rather large, twice the length of the calyx, clawed, upright, and of a yellow colour. *fig. 4.*

NECTARY: four Glands, two placed on the outside of the base of the filaments, unusually long, externally bent in at top, two placed on the inside of the base of the filaments, shorter and roundish. *fig. 7. 8.*

STAMINA: six FILAMENTS, two of which are shorter than the rest, tapering, upright and yellowish; ANTHERÆ laying across the filaments, and somewhat arrow-shaped. *fig. 5.*

PISTILLUM: GERMEN oblong, slender, Style very short; STIGMA forming a little head. *fig. 6.*

SEED-VESSEL: a Pod about an inch and a half long, round, mark'd on each side with a prominent line. *fig. 9.*

SEEDS numerous, small, brown, somewhat oval, and a little flatten'd.

MATTHIOLUS, one of the first Botanists who has taken notice of this plant, calls it *Eruca sylvestris*, and has given us a tolerable good figure of it, sufficient at least with his annexed description to identify it: CASPAR BAUHINE quotes this plant from Matthiolus, with this addition, *Eruca sylvestris major lutea caule aspero*, now there certainly is no appearance either in the plant, in Matthiolus's description, or figure, which justifies those expressions, for as TOURNEFORT observes in his *Hist. des plantes des environs de Paris* the branches have sometimes a few small hairs on them but by no means can they be called rough, this description of Bauhine's has therefore created much confusion, nor is the name of J. BAUHINE which Tournefort has adopted perhaps totally free from objection, the term *tenuifolia* though proper when placed as the opposite to *latifolia*, in the present instance is liable to mislead.

Did we entertain the least idea of the insufficiency of Matthiolus's, figure or description, TOURNEFORT and RAY have described it with so much accuracy as to leave no doubt of their being well acquainted with it, they both particularize its disagreeable smell, Tournefort's expressions are *son odeur approche de celle des huiles fétides rectifiées sur la chaux vive*; RAY's *odor totius plantæ fetidus et ingratus, nostris saltem naribus*; if any thing more were wanting to their descriptions we might add some peculiarities in its fructifications, as that the Calyx before it opens appears to have two little short horns from each of which issue one or more fine hairs, when the flower is expanded two of the leaves of the Calyx stand almost upright, while the other two bend back, and that two of the glands are uncommonly long.

Mr. HUDSON in the first edition of his *Flora Anglica*, calls this plant *Brassica Erucastrum*, in the second edition he has made it a new species, it certainly does not accord with LINNÆUS's specific description of that plant, its fructifications denote it to be a *Brassica*, and it does not agree with any of the other species of *Brassica* in LINNÆUS, I have therefore adopted Mr. HUDSON's name.

The Garden Rocket *Brassica Eruca* was formerly much cultivated in Gardens for medicinal use and for Sallads; but is at present less common, the seeds have a pungent taste of the mustard kind but weaker, they have long been celebrated as aphrodisiacs, and may, probably, have in some cases a title to this virtue in common with other acrid plants, and this as RAY observes, was not only the opinion of the Physicians but also of the Poets of former times, which he illustrates by the following quotations:

MARTIAL. *Et Venerem revocans Eruca morantem.*

COLUMELLA. *Excitat ad Venerem tardos Eruca maritos.*

OVID. *Nec minus Erucas jubeo vitare salaces.*

The *Brassica muralis* grows very plentifully in and about London, and is I believe of general growth on most of the old Walls and Castles throughout England, with us in particular it grows on the walls around the Tower, at the back of Bedlam, and near Hyde-Park, it is also frequently found among rubbish, it flowers during the greatest part of the summer.

5





Turritis glabra.

TURRITIS GLABRA. SMOOTH TOWER-MUSTARD.

TURRITIS *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Siliqua longissima, angulata. *Cal.* connivens, erectus. *Cor.* erecta.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ, SILIQUOSÆ ET SILICULOSÆ.

TURRITIS *glabra* foliis radicalibus dentatis hispidis, caulinis integerrimis amplexicaulibus glabris.
Lin. Syst. Vegetab. p. 502. Sp. Pl. p. 930. Haller. Hist. n. 455.

TURRITIS *glabra. Scopoli Fl. Carn. n. 839.*

BRASSICA *fylvestris* foliis circa radicem cichoraceis. *Baub. Pin. 112.*

TURRITIS foliis inferioribus cichoraceis, cæteris perfoliatis. *J. R. H.*

BRASSICA *fylvestris* ramosa tota penè glabra. *Baub. Pin. 112.*

TURRITIS *vulgator. Baub. Hist. II. 836.*

TURRITIS *Ger. emac. 272. Parkins 852. Raii Syn. p. 293. Tower-Mustard. Hudson Fl. Angl. ed. 2 p. 291.*

RADIX	biennis, simplex, alba, sublignosa, alte in terram, descendens, paucis fibrillis capillata.	ROOT	biennial, simple, white, somewhat woody, penetrating deeply into the earth, furnished with few fibres.
CAULIS	pedalis ad tripedalem, erectus, plerumque simplex, firmus, teres, solidus, prope terram hirsutus, supernè glaber.	STALK	from one to three feet in height, upright, generally simple, firm, round, solid, near the ground hirsute, above smooth.
FOLIA	radicalia pallide viridia, hirsuta, ad margines sinuata, tres quatuorve uncias longa, caulina glauca, glabra, integerrima, amplexicaulia, erecta, sagittata.	LEAVES	next the root, of a pale green colour, strongly hairy, jagged on each side, three or four inches in length, those of the stalk glaucous, perfectly smooth and entire, embracing the stalk, upright, and arrow-shaped.
FLORES	in summis caulibus parvi, ex albo lutescentes.	FLOWERS	on the top of the stalks, small, of a whitish yellow colour.
CALYX: PERIANTHIUM	tetraphyllum, foliolis ovato-oblongis, erectis, deciduis. <i>fig. 1.</i>	CALYX:	a PERIANTHIUM of four leaves, the leaves of an ovate oblong shape, upright and deciduous. <i>fig. 1.</i>
COROLLA:	tetrapetala, cruciformis. <i>Petala</i> ovato-oblonga, obtusa, integra, unguibus erectis. <i>fig. 2.</i>	COROLLA	tetrapetalous and cross-shaped. <i>Petals</i> of an ovate-oblong shape, obtuse, entire, claws upright. <i>fig. 2.</i>
STAMINA: FILAMENTA	sex, subulata, alba, quorum duo breviora. ANTHERÆ simplices, flavæ. <i>fig. 3.</i>	STAMINA:	six FILAMENTS, tapering, white, two of which are shorter than the others. ANTHERÆ simple, and yellow. <i>fig. 3.</i>
PISTILLUM: GERMEN	longitudine floris, teres, subcompressum. STYLUS nullus. STIGMA obtusum. <i>fig. 4.</i>	PISTILLUM: GERMEN	the length of the flower, round, a little flattened. STYLE none. STIGMA blunt. <i>fig. 4.</i>
PERICARPIUM:	<i>Siliquæ</i> plurimæ, pedicellatæ, erectæ, duos vel tres digitos longæ, caulem fere occultantes, teretiusculæ, subcompressæ, obsolete quadrangulæ. <i>fig. 5.</i>	SEED-VESSEL:	<i>Pods</i> numerous, standing on footstalks, upright, two or three fingers breadth in length, almost hiding the stalk, roundish, somewhat flattened, faintly quadrangular. <i>fig. 5.</i>
SEMINA	parva, numerosissima, ovata, planiuscula, rufa. <i>fig. 6.</i>	SEEDS	small, very numerous, ovate, flattish, of a reddish brown colour. <i>fig. 6.</i>

The term *glabra* is only proper when applied to the upper part of this plant, the radical leaves, which generally decay as the plant approaches to maturity, being hairy, like many other plants of the same family.

It is found but rarely near *London*. Hitherto I have only noticed it in one spot, *viz.* in the lane which leads down by *Charlton Church*, and there but sparingly; further on in *Kent* it is much more common, as well as in many other parts of *England*. It usually grows on banks near hedges, and flowers in *June* and *July*.

It varies so much in size, that the old Botanists make two species of it.







Arabis thaliana?

ARABIS THALIANA. PODDED MOUSE-EAR.

ARABIS *Linnaei Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Glandulae nectariferæ-4, singulæ intra Calycis foliola, squamæ instar reflexæ.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

ARABIS *thaliana* foliis radicalibus ovato-lanceolatis, dentatis, punctato-scabris.

ARABIS *thaliana* foliis petiolatis lanceolatis integerrimis. *Linn. Syst. Vegetab. p. 501. Fl. Suecic. n. 605.*

ARABIS foliis radicalibus petiolatis, ovatis, dentatis caule subnudo ramoso. *Haller hist. n. 452.*

TURRITIS vulgaris ramosa. *Raii Syn. 294, Mouse-ear.*

BRASSICA spuria minima, foliis hirsutis et glabris. *Raii Syn. ed. 2. 166.*

BURSÆ pastoris similis siliquosa major et minor. *Baubin Pin. 108.*

PILOSELLA siliquosa. *Thal. tab. 7*

PARONYCHIA major et altera minor. *Parkinson 556. Hudson Fl. Angl. p. 255.*

RADIX annua, simplex, fibrosa, albida.

FOLIA radicalia oblongo-ovata, petiolata, dentata, prefertim prope basin, hirsuta, utrinque scabra punctis prominulis, caulina sessilia dentata, fig. 1, 2; hirsuties ad basin foliorum simplex, ad marginem et superficiem bi et trifurcata.

CAULIS semipedalis ad pedalem, erectus, subramosus, teres, rore glauco tectus, hirsutus, ramuli alterni, nutantes.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, hirsutulis, fig. 3. auct.

COROLLA: PETALA quatuor, calyce duplo longiora, apice dilata, integra, obtusa, fig. 4. auct.

STAMINA: FILAMENTA quatuor subulata quorum duo breviora, fig. 5; ANTHERÆ flavæ, parvæ.

PISTILLUM: GERMEN oblongum, tenue; STYLUS brevissimus longitudine Stamina; STIGMA obtusum, fig. 6.

PERICARPIUM: siliqua tenuis, semuncialis, bivalvis, fig. 7, 8, continens

SEMINA plurima, flavescentia, fig. 9.

ROOT annual, simple, fibrous, whitish.

LEAVES of an oblong oval shape, standing on foot-stalks, indented, especially near the base of the leaf, hairy, rough on each side, with little prominent points; leaves on the stalk sessile and indented, fig. 1 2; the hairs at the base of the leaf simple, those at the edges and on the surface dividing into two or three forks.

STALK from six to twelve inches high, upright, somewhat branched, round, crooked, covered with a bloom, hairy, the little branches alternate and drooping.

CALYX: a PERIANTHIUM of four leaves, which are oval, concave, and slightly hairy, fig. 3, mag.

COROLLA of four PETALS, twice the length of the Calyx, dilated at top, entire and obtuse, fig. 4.

STAMINA: four tapering FILAMENTS, two of which are shorter than the others, fig. 5; ANTHERÆ small and yellow.

PISTILLUM: GERMEN oblong, slender, STYLE very short, equal in height to the Stamina; STIGMA blunt, fig. 6.

SEED-VESSEL: a small slender pod about half an inch long, of two valves, fig. 7, 8, containing

SEEDS. Several yellowish seeds, fig. 9.

AT first sight this little plant, in its larger state, forms some resemblance to the *Shepherd's Purse*; and when small, may be overlooked or mistaken for the *Draba verna*, particularly as it grows in similar situations; but by its slender pods it may readily be distinguished.

We have it frequent enough on our walls, and sometimes on dry ground, about town: and it may be found in great abundance on the south side of *Greenwich Park Wall*, the top of which, facing the late *SIR GREGORY PAGE's*, is in particular parts almost covered with it; while the bottom of it, is at the same time, beautifully ornamented with the *Geranium Cicutarium*.

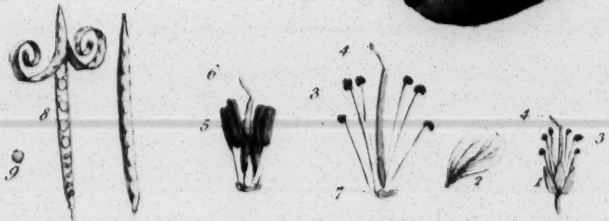
It flowers in March and April, and the seed is ripe in May.

No particular virtues or uses are ascribed to it.

Like all other plants (which is a circumstance that cannot be too often inculcated into the mind of the young Botanist) it varies very much in size; sometimes being not more than an inch or two in height, and at other times more than a foot.

The *Glandulae Nectariferæ*, often found at the base of the Stamina, in the plants of the Class *Tetradynamia*, and which according to *LINNÆUS* form the character of the Genus *Arabis*, are in this species so very minute, as scarcely to be discerned with a magnifier





Cardamine amara.

CARDAMINE AMARA. BITTER LADIES-SMOCK.

CARDAMINE *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA. Siliqua* elastice diffiliens, valvulis revolutis. *Stigma* integrum, *Calyx* subhians.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ et SILICULOSÆ.

CARDAMINE *amara* foliis pinnatis axillis stoloniferis. *Lin. Syst. Vegetab. p. 497. p. 915. Fl. Suecic. n. 586.*

CARDAMINE foliis pinnatis, subrotundis, angulosis. *Haller. hist. 474.*

CARDAMINE stolonifera *Scopoli, ic. 39 ?*

NASTURTIUM aquaticum majus et amarum. *Baub. pin. 104.*

CARDAMINE flore majore elatior. *Tourn. Inst. R. H. Raii Syn. 291. Bitter Cress.*

Hudson Fl. Angl. ed. 2. p. 294. Lightfoot Fl. Scot. p. 350.

RADIX perennis, tenuis, albida, repens.

CAULIS pedalis ad bipedalem, erectus, basi stoloniferus, flexuosus, subangulatus, glaber, ramosus.

FOLIA *radicalia* magna, rotundata, subintegerrima; *caulina* suberecta, pinnata, pinnarum paria plerumque tria cum impari, pinnæ oblongæ, angulatæ, angulis denticulo terminatis, læves, margine ad lentem viâ minutim ciliatæ, extimâ majori et in plures angulos divisâ.

FLORES albi, pro magnitudine plantæ, minores, flosculis Cardamines pratensis perquam similes, nunquam vero colorati.

PEDUNCULI ebractæati, teretes, læves alterni.

CALYX: PERIANTHIUM tetraphyllum, foliolis concavis, erectis, flavescentibus, margine membranaceis, deciduis. *fig. 1.*

COROLLA: PETALA quatuor, suberecta, alba, basi virescentia, oblongo-ovata, subemarginata, plana, lineis profundis exarata. *fig. 2.*

STAMINA: FILAMENTA sex, quorum duo breviora, subulata, alba; ANTHERÆ incumbentes, purpureæ; apicibus convolutis. *fig. 5. 3.*

GLANDULÆ ut in Cardamine pratensi. *fig. 7.*

GERMEN compressum, minute articulatum, longitudine staminum; STYLUS brevis, *obliquus*; STIGMA minimum. *fig. 4.*

PERICARPIUM: *Siliqua* et *Semina* sicut in Cardamine pratensi, nisi majora. *fig. 8. 9.*

ROOT perennial, slender, whitish, and creeping.

STALK from one to two feet high, upright, at bottom throwing out runners from the axæ of the leaves, crooked, somewhat angular, smooth, shining, and branched.

LEAVES *next the root* large, round, and almost perfectly entire; *on the stalk* nearly upright, pinnated, consisting for the most part of three pair of pinnæ with an odd one, pinnæ oblong, angular, each angle terminated by a small tooth or point, smooth, the edge, if viewed with a magnifier, appearing finely ciliated, the terminal pinna larger than the others, and divided into more angles.

FLOWERS white, considering the largeness of the plant rather small, very like those of the common Ladies-smock, but never coloured.

PEDUNCULES without any bractæa, round, smooth, and alternate.

CALYX: a PERIANTHIUM of four leaves, the leaves oblong, hollow, upright, yellowish, membranous at the edge, and deciduous. *fig. 1.*

COROLLA: four PETALS, somewhat upright, white, with a greenish base, of an oblong-oval shape, slightly notched, flat, with lines deeply engraved. *fig. 2.*

STAMINA: six FILAMENTS, two of which are shorter than the others, tapering and white; ANTHERÆ incumbent, purple, the top rolled up. *fig. 5. 3.*

GLANDS as in the common Ladies-smock. *fig. 7.*

GERMEN flat, finely jointed, the length of the stamina; STYLE short and *oblique*; STIGMA very minute. *fig. 4.*

SEED-VESSEL: *Pod* and *Seeds* similar to those of the common Ladies-smock, but larger. *fig. 8. 9.*

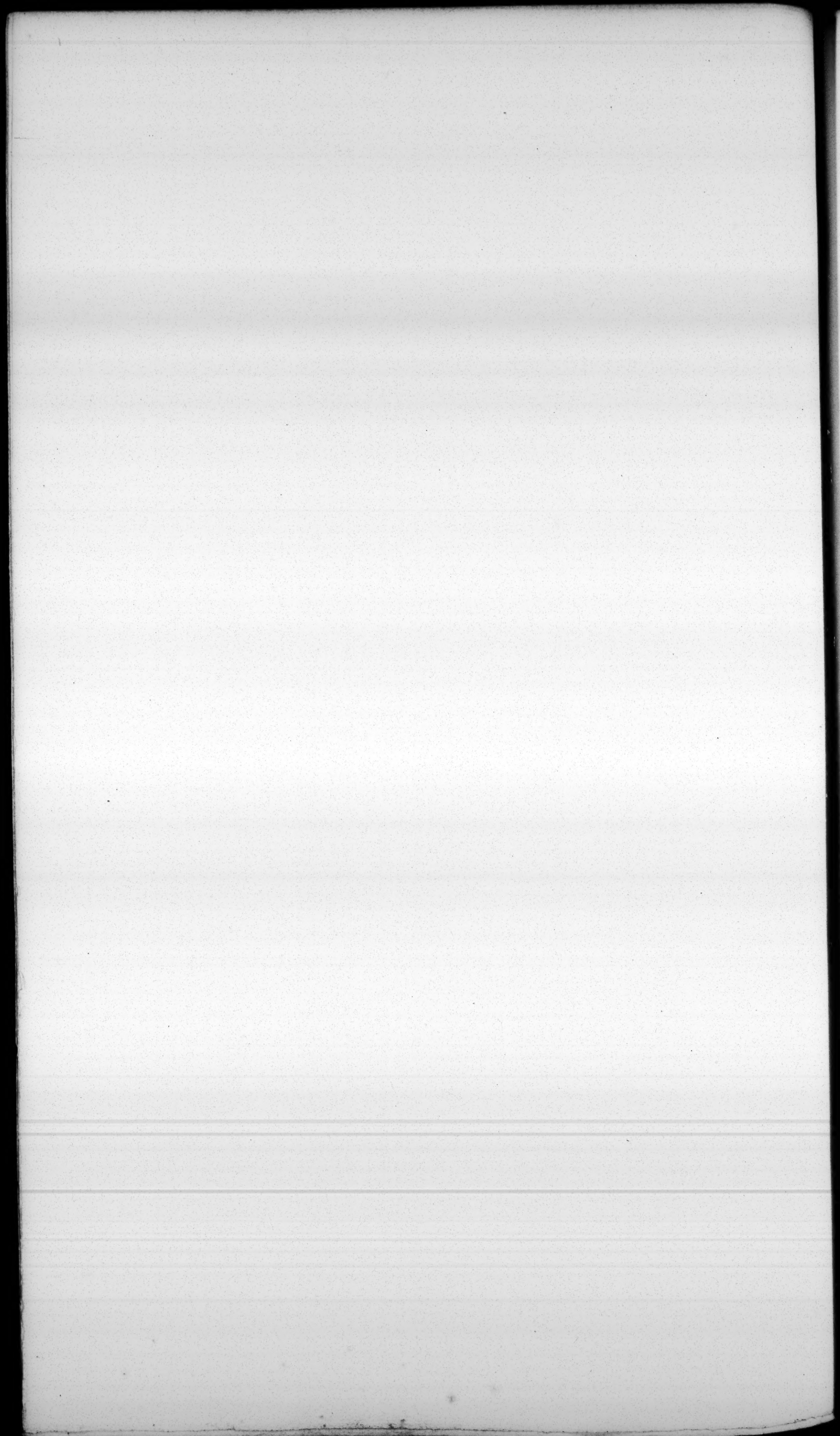
The *Cardamine amara* differs from the *pratensis* in divers respects, yet its affinity is so considerable as often to occasion its being mistaken for it; if the following characters, which distinguish it in particular from that plant, are attended to, the student will not easily be misled.

The *Cardamine pratensis* is a plant common in almost every wet meadow, this on the contrary is much more local, and rather affects to grow on the edges of rivulets and streams of water, than in the open meadow; the stalk-leaves of the *pratensis* are usually narrow, the sides closing almost together, these on the contrary are large, broad, and very angular, more resembling indeed the water-cress, from which similarity this plant has obtained among the old Botanists the name of *Nasturtium*; it is in every respect a larger plant than the *pratensis*, its blossoms excepted, which are nearly of the same size; and, as in the *pratensis* they are always of a purple colour, more or less deep, so in this they are always perfectly white, the antheræ, which in the *pratensis* are of a yellow colour, here form a striking contrast, and appear of a deep purple, and that, so far as I have observed, invariably, the tips of them are also more curled up; the style, which in the *pratensis* is upright, in the *amara* has an unusual obliquity in it, which I believe has not been noticed; towards the bottom of the stalk the *amara* is more disposed to throw out runners from the axæ of the leaves than the *pratensis*, but this character depends, in a considerable degree, on the circumstances of situation, moisture, &c. the *pratensis* has a similar disposition in degree, and I have seen it throw out roots from the midrib of the bottom leaves.

This plant may be considered as one of our plantæ rariores, I have noticed it here and there on the banks of the Thames, and the creeks running from it about *Battersea* and *Chelsea*, Mr. *Alchorne* has observed it about *Lewisham*, and in the neighbourhood of *Uxbridge*, it grows in abundance.

It flowers in May, and ripens its seed in June.

Its virtues and uses remain to be discovered, it has a strong biting taste of the cress kind, but not that degree of bitterness which would justify the epithet *amara*.







Cardamine pratensis.

CARDAMINE PRATENSIS. COMMON LADIES-SMOCK.

CARDAMINE *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA* *Siliqua* elastice diffiliens valvulis revolutis. *Stigma* integrum. *Cal.* subhians.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

CARDAMINE *pratensis* foliis pinnatis: foliolis radicalibus subrotundis, caulinis lanceolatis. *Lin. Syst. Vegetab. p. 497. Sp. Pl. 915. Fl. Suec. n. 585.*

CARDAMINE foliis pinnatis, radicalibus subrotundis, caulinis linearibus. *Haller. hist. n. 473.*

CARDAMINE *pratensis*, *Scopoli Fl. Carn. n. 819.*

NASTURTIIUM *pratense* magno flore *Bauh. p. 104.*

FLOS CUCULI *Dod. pempt. 592.*

CARDAMINE *Ger. emac. 259.*

NASTURTIIUM *pratense* majus five Cardamine latifolia. *Parkins 285. Raii Syn. p. 299. Ladies Smock or Cuckow-flower.*

Hudson Fl. Angl. ed. 2. p. 294. Lightfoot Fl. Scot. p. 349.

RADIX perennis, crassiuscula, alba, multis fibris tenuibus capillata.

CAULIS dodrantalis, erectus, apice parum ramosus, teres, obsolete angulosus, lævis, firmus, purpurascens.

FOLIA radicalia sæpius manca, in orbem sparsa, pinnata, pinnis subrotundis, inequaliter tridentatis, extimo majori, et sæpius quinque dentato, brevissime pedicellata, levia; caulina pinnata, erecta, pinnis plurimis, confertis, sublinearibus, concavis.

RACEMUS terminalis, pedunculatus, nudus, glaber.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovato-oblongis, obtusis, margine membranaceis, concavis, alternis basi gibbosis, deciduis. *fig. 1.*

COROLLA cruciformis, dilute purpurea seu albida; Petala obovata, submarginata, unguibus flavescens, longitudine calycis. *fig. 2.*

STAMINA: FILAMENTA sex, subulata, quorum duo breviora, incurvata; ANTHERÆ cordato lineares, incumbentes, flavæ. *fig. 3.*

NECTARIUM: Glandulae quatuor, quorum duo filamentorum breviorum basin cingunt, duo extra basin filamentorum longiorum locantur.

PISTILLUM: GERMEN cylindraceum, tenue; STYLUS brevissimus; STIGMA capitatum, staminibus paulo brevior. *fig. 4. 5.*

PERICARPIUM: Siliqua cylindraceo-compressa, bilocularis, bivalvis, valvulis dehiscentibus spiritaliter revolutis. *fig. 6. 7.*

SEMINA plurima, compressa, flavescens. *fig. 8.*

ROOT perennial, thickish, white, furnished with a large tuft of fine fibres.

STALK about nine inches high, upright, at top a little branched, round, scarce perceptibly angular, smooth, stiffish, with a purplish tinge.

LEAVES next the root frequently imperfect, spreading in a circular form, pinnated, the pinnæ roundish, running out into three unequal angles or teeth, the outermost largest, and having for the most part five angles, standing on very short footstalks and smooth; those on the stalk pinnated, upright, the pinnæ numerous, growing thickly together, somewhat linear and hollow.

RACEMUS, or Flower-bunch, terminal, furnished with footstalks, naked and smooth.

CALYX: a PERIANTHIUM of four leaves, which are oval, obtuse, membranous at the edge, hollow, the alternate ones gibbous at the base, and deciduous. *fig. 1.*

COROLLA cross-shaped, of a pale purple or whitish colour; Petals inversely oval, slightly notched, claws of a yellowish colour, the length of the calyx. *fig. 2.*

STAMINA: six Filaments, tapering, the two shortest of which bend inward; ANTHERÆ heart-shaped yet linear, incumbent and yellow. *fig. 3.*

NECTARY: four Glands, two of which surround the base of the shortest filaments, and two are placed on the outside of the base of the long filaments.

PISTILLUM: GERMEN cylindrical, and slender; STYLE very short; STIGMA forming a little head, and not quite so long as the stamina. *fig. 4. 5.*

SEED-VESSEL: a Pod cylindrical, and somewhat flattened, of two cavities and two valves, the valves in opening curling up. *fig. 6. 7.*

SEEDS numerous, flattened and yellowish. *fig. 8.*

The flowers of the *Cardamine pratensis* were a few years since introduced into practice, and recommended as serviceable in various spasmodic complaints by Sir W. BAKER, in the first volume of the *Medical Transactions*, such as the convulsive Asthma, spasms of the abdominal and other muscles, St. Vitus's Dance, Epilepsy, &c. the dose recommended was from a scruple to half a drachm or more of the powder of the dried flowers, to be taken morning and evening.

From the disuse into which this medicine has fallen, it should seem that it had not answered the expectations of succeeding practitioners neither here nor abroad. *Vid. Murray's Appar. Medicam. V. 2. p. 320.*

It gives a name to the *Papilio Cardamine* or *Orange-tip Butterfly*, which according to LINNÆUS feeds on it.

Sometimes it is found with double flowers, in which state it is kept in the gardens of the curious, where it requires a moist shady situation.

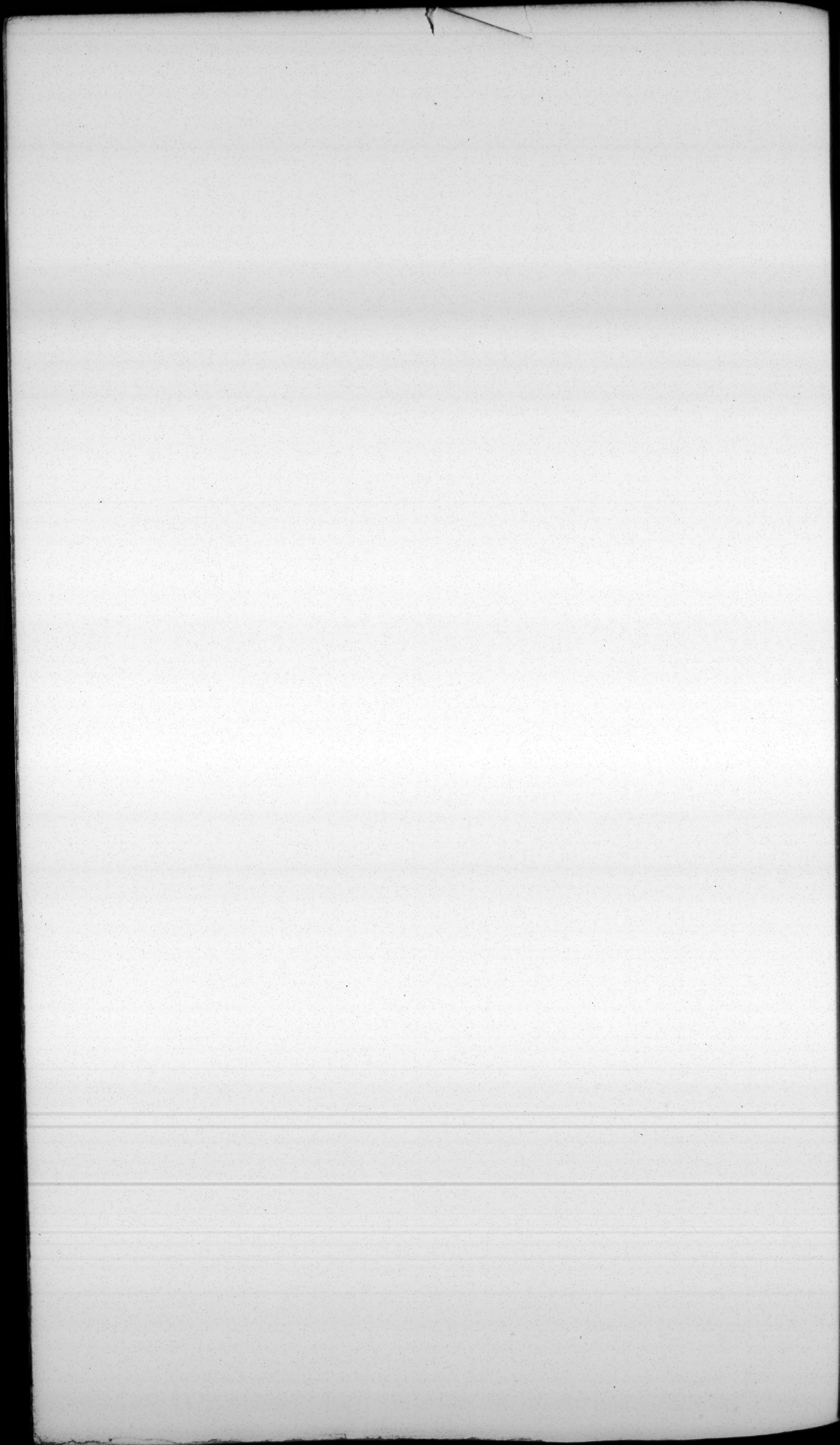
In the colour of its blossoms it is subject to much variation, they are usually white, with a tinge of purple, and ornament our meadows in the delightful month of May, as described by Shakespeare in *Loves Labour lost*:

*When daisies py'd and violets blue,
And cuckoo-buds of yellow hue,
And LADY-SMOCKS all silver white
Do paint the meadows with delight, &c.*

It probably acquired its plain English name of Lady-smock from the white appearance which its blossom gives to the meadows where it abounds, resembling linen bleaching on the grates:

"When maidens bleach their summer smocks,"

a practice very general formerly, when most families spun and bleached their own linen.







Cardamine hirsuta.

CARDAMINE HIRSUTA. HAIRY LADIES-SMOCK.

CARDAMINE *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Siliqua elastice diffiliens valvulis revolutis. *Stigma* integrum. *Cal.* subhians.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

CARDAMINE foliis pinnatis, floribus tetrandris. *Lin. Syst. Vegetab. p. 497. Sp. Pl. p. 915. Fl. Suec. n. 587.*

CARDAMINE foliis pinnatis hirsutis, pinnis subrotundis, staminibus quaternis. *Haller Hist. 472.*

CARDAMINE *hirsuta. Scopoli Fl. Carn. n. 817. t. 38.*

NASTURTIUM aquaticum minus. *Baub. Pin. 104.*

CARDAMINE impatiens altera hirsutior. *Raii Syn. p. 300.* The lesser hairy, impatient Cuckow-flower or Ladies-smock.

CARDAMINE foliis pinnatis, foliolis radicalibus subrotundo-cordatis; caulinis ovatis dentatis petiolatis. *Hudson. Fl. Angl. ed. 2. p. 295. Lightfoot Fl. Scot. p. 348.*

RADIX annua, fibrosa, fibris albidis.

CAULIS spithameus, et ultra pro ratione loci, in fossis humidis reperitur etiam sesquipedalis, solidus, erectus, flexuosus, sulcato-angulosus, prope basin purpureus, et sæpius hirsutissimus, superne fere glaber, ramosus, ramosissimus etiam occurrit.

FOLIA radicalia plurima, in orbem posita, pinnata, foliolis petiolatis, rotundato-angulatis, plerumque quinque lobatis, hirsutis, punctis prominulis scabriusculis, lobis inæqualibus, nunc obtusis, nunc acutis; caulina angustiora et magis profunde incusa, lobis paucioribus.

FLORES parvi, albi, primo vere tantum, tetrandri.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovato-oblongis, obtusis, concavis, deciduis, pilis paucis albidis instructis. *fig. 1.*

COROLLA: PETALA quatuor, alba, calyce duplo fere longiora, patentia, integerrima, obtusa. *fig. 2.*

STAMINA: FILAMENTA plerumque sex, quorum duo breviora, alba. ANTHERÆ minimæ, lutescentes. *fig. 3.*

PISTILLUM: GERMEN oblongum, tenue, staminibus paulo brevior. STIGMA capitatum. *fig. 4.*

PERICARPIUM: *Siliqua* erecta, uncialis, subcompressa, bivalvis, elastice diffiliens, valvulis revolutis *fig. 5.*

SEMINA duodecim circiter, suborbiculata, compressa, glabra, e flavo fusca *fig. 6.*

ROOT annual and fibrous, the fibres whitish.

STALK about a span high, or more, according to the situation in which it grows; in wet ditches it is sometimes found even a foot and a half in height, solid, upright, crooked, grooved or angular, purple near the base, and most commonly very hairy, above nearly smooth, branched, sometimes very much so.

LEAVES next the root numerous, forming a circle, pinnated, the small leaves standing on foot-stalks, round yet angular, generally divided into five lobes, hirsute, roughish with little prominent points, the lobes unequal, sometimes blunt and sometimes pointed; those of the stalk narrower, and more deeply indented, with fewer lobes.

FLOWERS small, and white, early in the spring, having only four stamina.

CALYX: a PERIANTHIUM of four leaves, of an ovate, oblong shape, obtuse, hollow, deciduous, furnished with a few white hairs. *fig. 1.*

COROLLA: four white PETALS, almost twice the length of the calyx, spreading, entire and obtuse. *fig. 2.*

STAMINA: for the most part six FILAMENTS, of which two are shorter than the rest, of a white colour. ANTHERÆ very small and yellowish. *fig. 3.*

PISTILLUM: GERMEN oblong, slender, a little shorter than the stamina. STIGMA forming a small head. *fig. 4.*

SEED-VESSEL: an upright *Pod*, about an inch in length, somewhat flattened, of two valves, which burst with an elastic force, and roll back. *fig. 5.*

SEEDS about twelve in number, nearly round and flattened, smooth, and of a yellowish-brown colour. *fig. 6.*

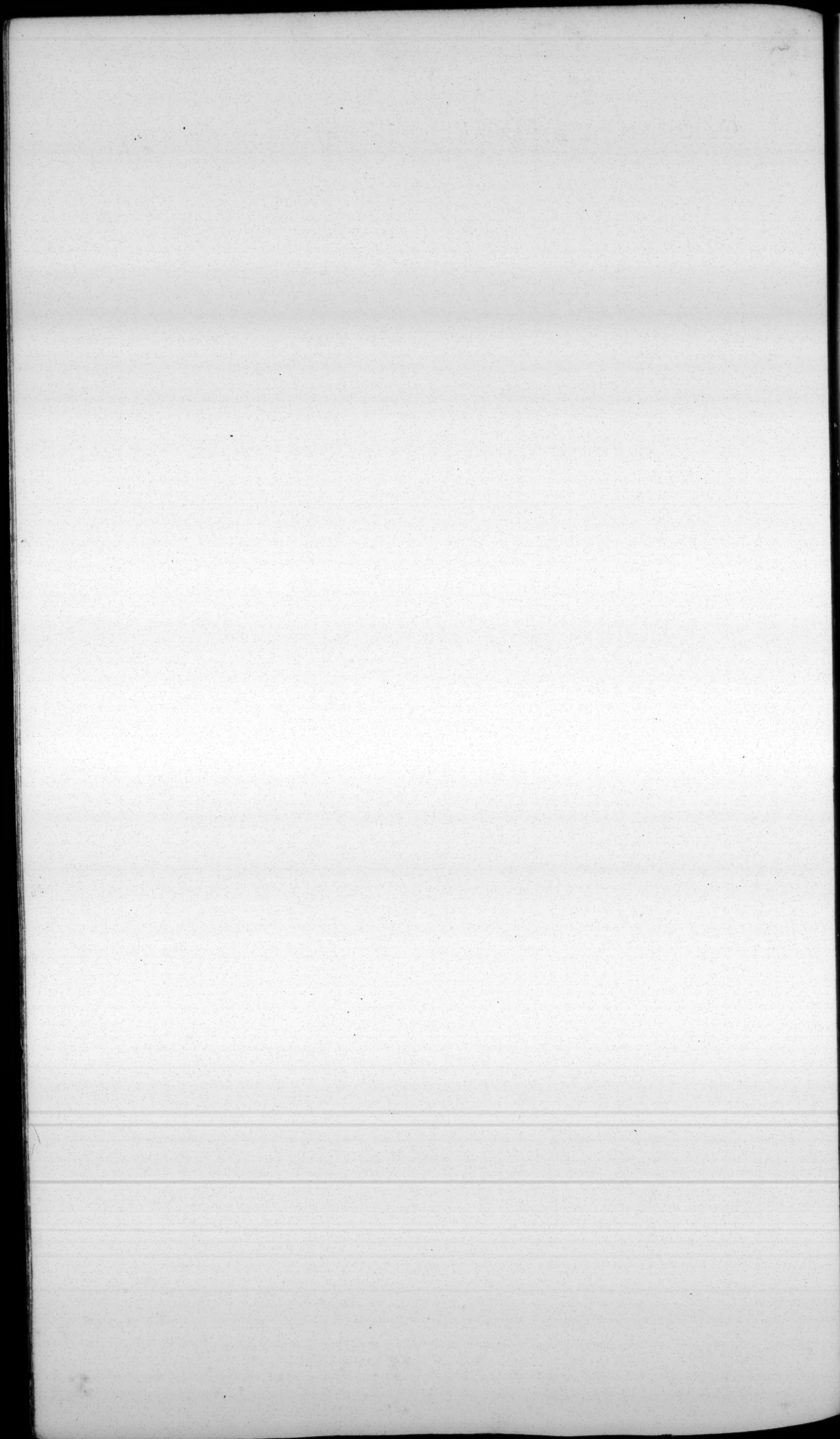
We were inclined to believe with our ingenious friend Mr. LIGHTFOOT, that the *Cardamine hirsuta* and *parviflora* were distinct species; but repeated observation and culture have convinced us, that they are both the same, varying only in size, in hairiness, and in the number of their stamina.

In wet situations, where the soil is luxuriant, it grows a foot or two in height, and loses in a great degree its hairiness; in exposed places it seldom reaches more than six or eight inches, and is generally much more hairy, and, when it grows singly, much more branched. The same plant, early in the spring, when the weather is cold, has only four stamina; as the summer advances, it has constantly six. The lobes of the radical leaves vary much in shape, and are frequently much rounder than the figure represents.

This species is by no means general about London, but abounds in particular places; as by Chelsea water-works, in wet ditches about Hampstead, Highgate, and elsewhere.

It flowers in April and May. In the garden, if the situation in which it is sown be shady, and the season not uncommonly dry, it continues flowering and seeding during the whole of the summer.

According to Mr. LIGHTFOOT, the young leaves are a good ingredient in a salad, and may easily be obtained in the spring, when Mustard and Cress are not to be had.







Nasturtium Nasturtium.

SISYMBRIUM NASTURTIIUM. WATER-CRESS.

SISYMBRIUM *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Silicula dehiscens valvulis rectiusculis. Cal. patens. Cor. patens.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *Nasturtium* filiquis declinatis, foliis pinnatis, foliolis subcordatis. *Lin. Syst. Vegetab. p. 594. Sp. Pl. 916. Fl. Suec. n. 592.*

SISYMBRIUM foliis pinnatis, pinnis subrotundis, brevibus racemis. *Haller hist. 482.*

SISYMBRIUM *Nasturtium.* *Scopoli Fl. Carn. n. 821.*

NASTURTIIUM aquaticum fupinum. *Bauh. Pin. 104.*

SISYMBRIUM Cardamine, seu Nasturtium aquaticum. *I. B. II. 884.*

NASTURTIIUM aquaticum vulgare. *Park. 1329.*

NASTURTIIUM aquaticum seu Cratevæ fium. *Ger. emac. 257. Raii Syn. p. 300. Water-Cresses. Hudfon Fl. Angl. ed. 2. p. 296. Lightfoot Fl. Scot. p. 350.*

NASTURTIIUM aquaticum foliis minoribus præcocius. Early flowering Water-Cresses with smaller leaves. *Raii Syn. 301.*

NASTURTIIUM aquaticum pinnulis paucioribus. *Raii Syn. p. 301.*

RADIX annua, fibrosissima, fibris albidis.

CAULES plures, ad basin plerumque repentes, sub-
erecti, pedales, bipedales et ultra, purpuraf-
centes, angulosi, fulcati, ramosi, glabri, fis-
tulosi.

FOLIA caulina pinnata, semi-amplexicaulia, glabra,
pinnis trium seu quatuor parium, oppositis,
ovatis, obtusis, submarginatis, obtuse den-
tatis, sessilibus, externa rotundiore ad apicem
sæpe attenuata; axillis radices agentibus;
radicalia omnia rotundiora.

FLORES parvi, albi, numerosi, racemosi, racemis
erectis.

PEDUNCULI primo erecti, demum patentes, subde-
clinati, filiquis breviores.

CALYX: PERIANTHIUM 4-phyllum, foliolis ob-
longis, concavis, obtusis, erectis, flavescenti-
bus, *fig. 1.*

COROLLA: PETALA 4, subrotunda, alba, demum
purpurascens, *fig. 2.*

STAMINA: FILAMENTA 6, quorum duo breviora,
primo ex albido virescentia, demum purpurea;
ANTHERÆ flavæ, *fig. 3.*

PISTILLUM: GERMEN teres, virescens, tandem pur-
pureum; STYLUS brevissimus, vix ullus;
STIGMA capitatum, *fig. 4.*

SILIQUÆ unciales, sursum subcurvatæ, patentes, sub-
declinatæ feminibus protuberantibus turgidæ.

ROOT annual, extremely fibrous, fibres whitish.

STALKS numerous, usually creeping at the base,
nearly upright, a foot, two feet, or more, in
height, purplish, angular, grooved, branched,
smooth, and hollow.

LEAVES of the stalk pinnated, half embracing the
stalk, smooth, the pinnæ or leaflets consist-
ing of three or four pair, opposite, ovate,
obtusely, with a slight indentation at the end,
bluntly toothed, sessile, the end leaflet rounder
than the others, often running out to a point,
the axes of the leaves putting forth roots, and
all the radical leaves roundish.

FLOWERS small, white, numerous, growing in ra-
cemi which are upright.

FLOWER-STALKS at first upright, finally spread-
ing or a little depending, shorter than the
pods.

CALYX: a PERIANTHIUM of four leaves, which are
oblong, concave, obtuse, upright, and yel-
lowish, *fig. 1.*

COROLLA: 4 PETALS, roundish, white, finally of
a purplish hue, *fig. 2.*

STAMINA: 6 FILAMENTS, of which two are shorter
than the rest, at first of a greenish white co-
lour, lastly purple; ANTHERÆ yellow, *fig. 3.*

PISTILLUM: GERMEN round, greenish, finally
purple; STYLE very short, scarce any;
STIGMA forming a little head, *fig. 4.*

SEED-PODS, about an inch in length, bent a little
upwards, spreading, slightly depending, tur-
gid with seeds which protuberate.

Most people are acquainted with the leaves of the Water-cress, few comparatively with the plant in flower; to render their knowledge of it complete, we have represented it in both states.

It is a plant common not only to Europe but America, grows spontaneously in rivulets and watery ditches, and flowers in June, July, and August.

It varies in its appearance from several causes; the leaves, if growing in the shade, are of a green colour, if exposed to the sun, purplish brown; they rarely vary in their shape, yet we have seen instances of their being considerably elongated by growing in a stream where the current has been rapid; the alteration produced on the leaves of many other plants from the same cause, is well known to Botanists: in this state there is a possibility that the leaves, by mistake, may be eaten for those of the creeping Water-parsnep (*Sium nodiflorum*) which usually grows with it; if by accident they should, no great danger is to be apprehended, as there are no instances on record of that plant's being poisonous; to avoid, however, any alarm from such a circumstance, those who are in the practice of eating Water-cresses, should observe, that the leaves are nearly round, and that they have the cress-like taste, the leaves of the Water-parsnep are not only long and pointed, but sawed on the edges, they are also of a much paler colour, and have a very different taste.

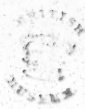
RAY mentions two other species of Water-cress, which can only be considered as mere local varieties.

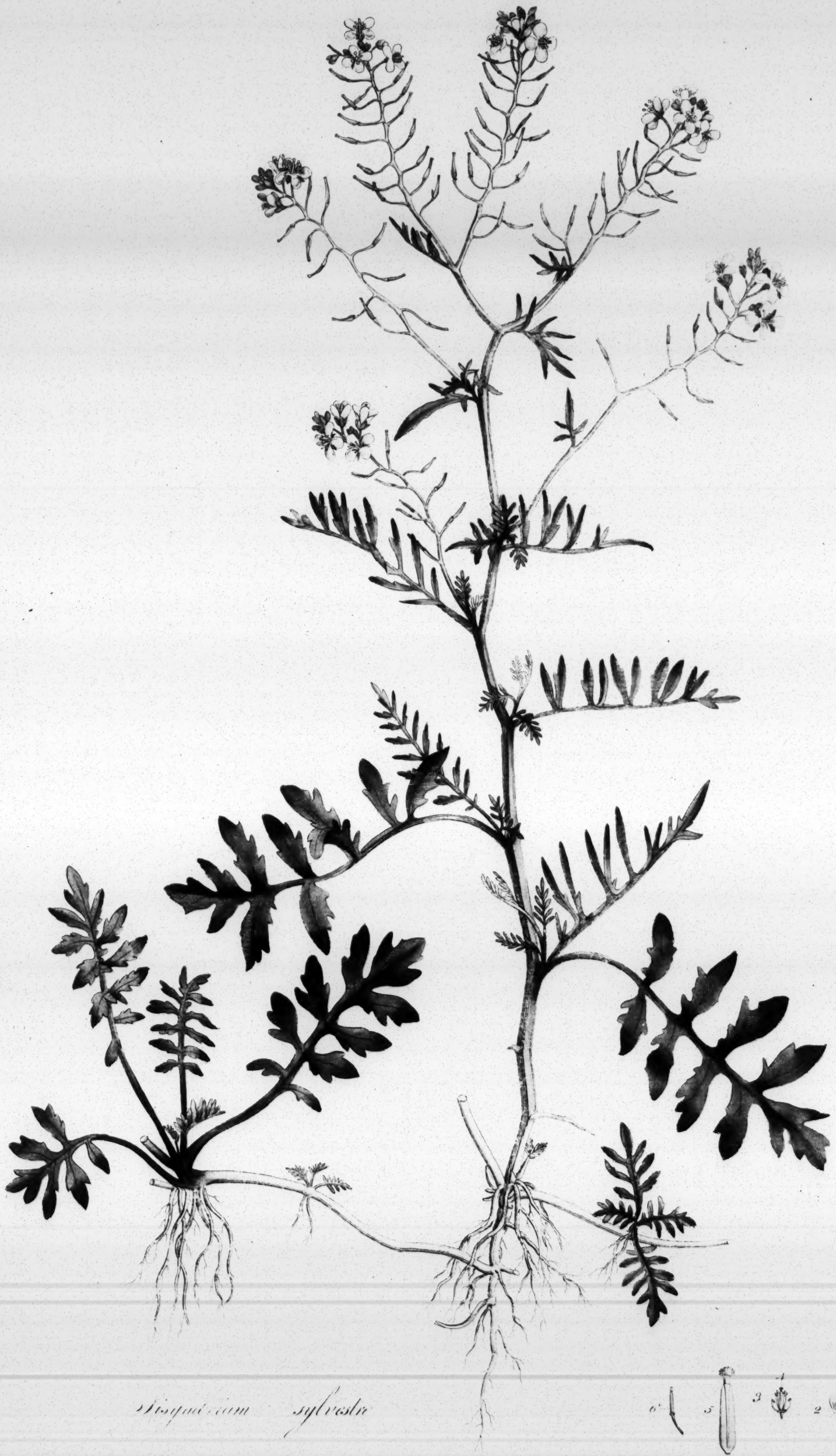
“ This

" This plant has of late years been generally used as a salad-herb in the spring of the year, and is by many preferred to all other sorts of salads, for its agreeable warm bitter taste, and being accounted an excellent remedy for the scurvy and to cleanse the blood, as also a good diuretic, it has greatly obtained a preference to most other sorts for winter and spring use with many people. This is generally gathered in the ditches and other standing waters near London, to supply the markets; but whoever has a mind to cultivate it, may easily do it, by taking some of the plants from the places of their natural growth early in the spring, being careful to preserve their roots as entire as possible and plant them into mud, and then let the water in on them by degrees; when they have taken root, they will soon flourish and spread over a large compass of water: they should not be cut the first season, but suffered to run to seed, which will fall into the water, and furnish a sufficient supply of plants afterwards; but where the water is so deep that it will not be easy to plant them; the best method will be, to get a quantity of the plants, just as their seeds are ripening, and throw them on the surface of the water, where they are designed to grow, and their seeds will ripen and fall to the bottom, where they will take root and produce a sufficiency of these plants." MILLER'S *Gard. Dict.*

The leaves of the Water-cress have a moderately pungent taste, and when rubbed between the fingers, emit a quick penetrating smell, like that of mustard seed, but much weaker. Their pungent matter is taken up both by watery and spirituous menstrua, and accompany the aqueous juice, which issues copiously on expression; it is very volatile, so as to rise in great part in distillation with rectified spirit as well as with water, and almost totally to exhale in drying the leaves, or inspissating by the gentlest heat, to the consistence of an extract, either the expressed juice, or the watery or spirituous tinctures. Both the inspissated juice and the watery extract, discover to the taste a saline impregnation, and, in keeping, throw up crystalline efflorescences to the surface. On distilling with water considerable quantities of the herb, a small proportion of a subtle, volatile, and very pungent essential oil is obtained.

This herb is one of the milder acrid aperient antiscorbutics, of the same general virtues with the Cochlearia, but considerably less pungent, and, in a great measure, free from the peculiar flavour which accompanies that plant. HOFFMAN has a great opinion of it, and recommends it as of singular efficacy for strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the body of humours: for these purposes, the herb may be used as a dietetic article, or the expressed juice, taken in doses of from one to four ounces twice or thrice a day. LEWIS'S *Materia Medica*.





Sisymbrium

SISYMBRIUM SYLVESTRE. CREEPING WATER-ROCKET.

SISYMBRIUM *Linnei. Gen. Plant.* TETRADYNAMIA SILIQUOSA.

Siliqua dehiscens valvulis rectiusculis. *Cal.* patens. *Cor.* patens.

Raii. Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM sylvestre filiquis declinatis oblongo-ovatis, foliolis lanceolatis serratis. *Lin. Syst. vegetab.* p. 497.

SISYMBRIUM foliis pinnatis, pinnis dentatis diffitis *Haller. Hist. n.* 485.

SISYMBRIUM Roripa? *Scopoli Fl. Carniol.* p. 823.

SISYMBRIUM palustre repens Nasturtii folio. *Tournefort plant autour de Paris* p. 37.

ERUCA sylvestris minor luteo parvoque flore *Baubin pin.* 98.

ERUCA quibusdam sylvestris repens, flosculo luteo *Baub. Hist.* 2 p. 866.

ERUCA aquatica *Ger. emac.* 248. *Park.* 1242. *Raii. Syn.* 297. Water-Rocket. *Raii. Hist.* p. 808.

Hudson. Fl. Angl. ed. 2. p. 296.

Lightfoot Fl. Scot p. 351.

RADIX perennis, albida, tenuis, insigniter repens, plurimis germinibus tuberculosa.

CAULES plurimi, pedales, suberecti, debiles, interdum purpurascens, glabri, angulato-friati, ramosi, ramis hirsutulis.

FOLIA radicalia pinnatifida, pinnis subovatis, dentato-ferratis, lævia, petiolo purpurascens, caulina alterna, subpinnatifida, pinnis lanceolatis, serratis, integrifve.

PETIOLUS superne canaliculatus.

FLORES parvi, lutei.

PEDUNCULUS communis multiflorus, flexuosus, *Pedunculi proprii* alterni, patentes, aut sursum paululum curvati, filiqua plerumque longiores.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, erectis, æqualibus, flavescentibus, *fig.* 1.

COROLLA: PETALA quatuor, unguiculata, obtusa, patentia, calyce paulo longiora, *fig.* 2.

NECTARIUM: Glandulæ quatuor, saturate virides, in circulum coadunatæ.

STAMINA: FILAMENT sex, quorum duo breviora, subulata, flava; ANTHERÆ incumbentes, *fig.* 3.

PISTILLUM: GERMEN oblongum, teres, longitudine staminum, *fig.* 5, STYLUS brevissimus; STIGMA capitatum, villosum. *fig.* 4.

PERICARPIUM: SILIQUA brevis, vix semuncialis, teres, sursum curvata, plerumque abortiva, *fig.* 6.

ROOT perennial, whitish, slender, remarkably creeping, thickly beset with germs which give it a knobbed appearance.

STALKS numerous, a foot high, nearly upright, weak, sometimes purplish, smooth, somewhat angular and finely grooved, branched, the branches very slightly hairy.

LEAVES next the root pinnatifid, the pinnae or small leaves somewhat oval, toothed or sawed, and smooth, the leaf stalk purplish, leaves on the stalk alternate, serrated or entire.

FLOWER-STALK hollowed above.

FLOWERS small and yellow.

FLOWER-STALK: the general flower-stalk bent in and out and supporting many flowers, the partial ones alternate, spreading almost horizontally, or bent a little upwards, generally longer than the pod.

CALYX: a PERIANTHIUM of four leaves, which are oval, hollow, upright, equal and yellowish, *fig.* 1.

COROLLA: four PETALS each having a claw, and blunt at the point, spreading and a little longer than the calyx, *fig.* 2.

NECTARY: four glands, of a deep green colour, united in a circle.

STAMINA: six filaments, two of which are shorter than the others, tapering, and yellow, ANTHERÆ laying across the Filaments. *fig.* 3.

PISTILLUM: GERMEN oblong, round, the length of the stamina *fig.* 5, STYLE very short; STIGMA forming a little head and villous. *fig.* 4.

SEED-VESSEL a short Pod, scarce half an inch long, round, bending upwards, generally abortive. *fig.* 6.

TOURNEFORT in his *Histoire des Plantes des environs de Paris*, has described our plant with much accuracy, it appears from his account to be plentiful not only along the banks of the *Seine*, but in the the courts before Houses, and in moist situations, it is also described by RAY, in his *Hist. Plant*; with us it is not of such general growth but in those situations in which it does occur we find it in great abundance; the watery part of *Tothill Fields Westminster* is over run with it; I scarcely know any plant that requires to be introduced into a Garden with more caution than this, especially if the ground be moist.

It continues to flower from June to September. Both RAY and TOURNEFORT mention the seeds of this plant, it is probable they found it growing in a dry situation favourable to their ripening, the seed vessels which I have had an opportunity of seeing have all proved abortive, which I suspect is natural to the plant as it encreases so considerably by its root.

This plant affords no striking generic character, but may be referred to almost any Genus in the Order.



3



Siumbrium stric.

SISYMBRIUM IRIO. LONDON ROCKET.

SISYMBRIUM *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Siliqua dehiscens, valvulis rectiusculis. Calyx patens. Corolla patens.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *Irio* foliis runcinatis dentatis nudis, caule lævi, filiquis erectis. *Lin. Syst. Vegetab. p. 499. Sp. Pl. 921. Fl. Suec. n. 596.*

ERYSIMUM latifolium majus glabrum. *Baub. Pin. 101.*

IRIS lævis Apulus erucæ folio. *Col. Ecphr. 1. 264.*

ERYSIMUM latifolium Neapolitanum. *Park. 834. Raii Syn. p. 298. Smoother broad-leaved Hedge-Mustard. Hudon. Fl. Angl. ed. 2 p. 297. Jacquin. Fl. Austr. tab. 322.*

Tota planta perpetuo glaberrima est, nec ullum pilum aut villum habet, acre sinapios sapore gaudens.

The whole plant is always perfectly smooth, without any hair or down, having the biting taste of mustard.

RADIX annua, albida, calami anserini crassitie, simplex, quandoque ramosa.

ROOT annual, whitish, the thickness of a goose-quill, simple, sometimes branched.

CAULIS pedalis, ad bipedalem, teres, hic illic purpureascent, nitidus, firmus inferne, non striatus, sæpius ab ipsa basi ramosus.

STALK from one to two feet high, round, here and there purplish, shining, below rigid, not striated or grooved, often branched quite from the bottom.

FOLIA radicalia, quæ brevi marcescunt, et caulina pleræque, sunt pinnatifida, sinuata, inæqualiter dentata aut ferrata, petiolata, patentia, flaccida, lobis ut plurimum acutis, extremo majore et longiore, summa hastata, et quædam integerrima ac simplicia.

LEAVES next the root, which soon wither, and most of those on the stalk are pinnatifid, sinuated, unequally toothed or serrated, standing on foot-stalks, spreading and flaccid, the lobes for the most part pointed, the end one larger and longer, the uppermost leaves hastate, some of them entire and simple.

CORYMBI in racemos producuntur longissimos, modo rectos, modo flaccidos.

CORYMBI lengthened out into long racemi, sometimes strait, sometimes flaccid.

FLORES pusilli, flavi.

FLOWERS small and yellow.

CALYX patens, flavescens, fig. 1.

CALYX spreading and yellowish, fig. 1.

PETALA obtusa, et oblonga, ungues habent suberectos, supra hos patentissima, fig. 2.

PETALS obtuse, and oblong, having claws nearly upright, above which they spread widely, fig. 2.

STAMINA et STYLUS etiam flavescunt, fig. 3, 4.

STAMINA and the STYLE are also of a yellowish colour, fig. 3, 4.

SILIQUÆ graciles, subteretes, ad femina torulosa, et biunciales, brevibus insistent pedunculis et quaquavorsum laxè patent, fig. 5.

PODS slender, nearly round, about two inches long, standing on short foot-stalks, and spreading loosely every way, seeds protuberant, fig. 5.

SEMINA minuta, pallide flavent, fig. 6.

SEEDS minute, of a pale yellow colour, fig. 6.

The *Sisymbrium Irio*, though a scarce plant in many parts of Great Britain, is frequent enough in the neighbourhood of London: we find it on dry banks, especially such as are made of road sand, walls, and among rubbish in uncultivated places. Its chief time of flowering is from July to September. Like many other annuals it is inconstant as to its particular place of growth. In favourable seasons and situations it is capable of multiplying itself exceedingly from the great number of seed vessels which it produces. The seeds are very small, and protuberating a little through the valves of the seed-vessel give them the appearance of finely jointed pods; a character, which when present will readily distinguish this plant. Mr. Ray observed it at Faulkbourne in Essex, and on the walls of Berwick on the Tweed. That great naturalist remarks, that after the fire of London in the years 1667, 1668, it came up abundantly among the rubbish in the ruins. MORISON, who lived at that period, was particularly struck with so singular an appearance, and in his *Preludia Botanica* has a long dialogue on this very subject; in which, whatever laurels he may gain as a Botanist, few will think him entitled to any as a Philosopher.

As the book, containing this curious dialogue, is in few hands, we flatter ourselves a copy of it will not be unacceptable to many of our readers.

Botan. Secundo die Septembris, anno Domini, 1666, incepit incendium illud lucuosum et ad triduum, aut quatriduum duravit. Nec ope humanâ (di initus evenit, quum non est malum in civitate, quod non fecit Dominus) extingui poterat: nam Æolus apperto ventorum carcere (ut ita loquar) regnabat: per triduum aut quatriduum illud. Post octomestrem spatium, per rudera ducentorum jugerum, solo æquatatorum, mihi perambulanti versus excambium vetus nunc. Antè illud tempus; Collegium Greshamianum dictum tendenti, in vestigiis, ædificiorum et tectorum, mihi tanta sese objecit copia, Erysimi illius, quod irio lævis Apulus alter Fabio Columnæ dicitur: Et eodem revertens, mensibus duobus post hoc; adeo densè pullulavit, ut falce quasi Triticum, aut fæcale demeti potuerit. *Soc.* Quid inde sequetur, unde provenisse tantam copiam istius Iriionis? putas tu; an à femine seu satione? *Botan.* Quid quæso, te movet ad talem proponendam questionem, cum ædificia omnia circa ædem Divi Pauli, et alibi passim in meditullio celeberrimi Emporii Londini, à mille aut saltem centenis annis: Fuere constructa et tectis conservata? *Soc.* Ergò tanta copia illius seminis, latebat in cellis et cavearum fundis, et soli et pluviae exposita, fructicavit. *Botan.* Unum hoc addam: ego non sum Plinius, ut ex aliorum relatione mundo imponam; nec Mattheolus ut appingam ea quæ nunquam extitere: sed ut vis appertis

“ verbis

“ verbis nec Calamistratis: meum tibi dicam animum. *Soc.* Dicas quæso? *Botan.* Nullum est semen plantæ,
“ quod producit (conservatum quam diligentissimè) post decennium; perraro post quinquennium: multò minùs
“ post centenos aliquot, et mille annos. *Soc.* Ergò aliquis semina istius plantæ, per rudera sparsit. *Botan.* Non
“ credo imò, certò scio tantam istius Irionis, feminis copiam non fuisse in tota insula Britannia, imò nec in Gallia:
“ dubito an in Germania et Italia ipsa; (cujus Neapolis est regnum, ubi frequentè crescebat tempore Fab. Columnæ,) *Soc.*
“ unquam floruit tanta istius plantæ copia, ergò etiam si feminatores fuissent (ex tuâ opinione, post hæc tibi à me
“ audita) non poterat tanta copia istius individualis speciei, feminis; à tot Regnis suppeditari. *Soc.* De hoc non
“ multum nunc dubito: sed quid concludis, sis rationi consentaneus. Unde provenit tanta copia istius Irionis,
“ forte sponte. Sub idem tempus, ibidem vidisti et observasti multas alias plantas, pappecentes, imò gramineas
“ aliasque diversarum classium. *Botan.* Vidi et attentè observavi. *Soc.* Undè hæc aliæ venere? *Botan.* A semine
“ volatili pappecenti quod potest (ut supra clarè satis docui) ad multa Milliaria, vento transferri, et in altum attolli
“ et ubicunque ceciderit, germinat et fructificat. *Soc.* De pappecentibus non dubito quod dicis, insuper Gramina,
“ densè satis proveniunt: in qualibet terra si negligatur: quare non potest tuum Erysimum, seu Irio lævis Apulus
“ alter in rudibus Londinensibus, sponte etiam provenire. *Botan.* Non est par ratio inter Gramina et Erysimum
“ hoc: Quia Graminum semina sparguntur passim; est omnium vegetantium plantarum, in omnibus regionibus,
“ frequentissima et facilius sese propagat. *Soc.* Est planta tamen perfecta, ex supra dictis à te: ergò à semine, multi-
“ plicatur. *Botan.* Hoc ego semper credidi, et in hanc horam credo. Unum a te sciscitari velim, putasne hanc
“ plantam, Irionem lævem Apulum Col. a quovis hortulano, aut incola hujus civitatis satam, in rudibus fuisse.
“ *Soc.* Neminem hujus insulæ primò tam curiosum, secundò nec tantæ ejus plantæ feminis, copia instructum
“ fuisse, pro certo ratum et statutum habeo. Quis tam stolidus aut malè feriatas homo, si semina ad manum haberet
“ (quod impossibile supra demonstratum est) rudibus ducentorum jugerum terræ, solo æquatorum, committeret.
“ Ergò cum nec à satione, nec à semine, ad aliquot centenos annos in rudibus latente, produci poterat; hujus
“ plantæ tanta copia. Unde concludere vis, tantam ipsius multitudinem provenisse. *Botan.* Certè ut supra dixi ex
“ sale partim volatili, partim fixo, salpetro, sulphure, et ex terra sive calcosa aut ruderosa et aqua, mixtaque
“ materia, quocunque modo appelles, per me non stabit. Nescio quid mihi persuasum habere debeo, adhuc.
“ Probabile certè est, hanc plantam tam copiosè provenisse spontè; ut supra dictum fuit. Sed hæc opinio apperit
“ januam ad philosophastros contemplativos, qui indifferenter, credunt cujuslibet generis plantas, arbores, frutices,
“ suffruticesve, ex terra tanquam matrice, sponte sine semine provenire. Sed hæc opinio (ut mihi videtur) repugnat
“ sacrae scripturæ, et rationi. Hæc per dialogum inter nos dixisse, impræsentiarum, sat esse puto. Quod reitat de
“ hac materia; Sociis virtuosis, Parisiensibus, et Londinensibus, viris nobilissimis, clarissimis et doctissimis (ex quorum
“ numero te esse scio) discutiendum relinquo. Vale, mi doctissime vir.”





Sisymbrium terrestris.

SISYMBRIUM TERRESTRE. ANNUAL WATER-RADISH.

SISYMBRIUM *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Siliqua dehiscens, valvulis rectiusculis. *Cal.* patens. *Corolla* patens.

Raii Syn. Gen. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *terrestre* radice annua, foliis pinnatifidis dentato-ferratis, siliquis fecundis.

RADIX annua, fibrosa, albida.

CAULIS pedalis, sesquipedalis, et ultra, plerumque erectus, ramulosus, sulcatus, lavis, viridis, seu purpurascens.

FOLIA omnia pinnatifida, Erysimi officinalis quodammodo similia, lavis, pinnis trium, quatuor, five sex parium, cum impari, omnibus inæqualiter dentato-ferratis, extima præsertim in inferioribus foliis rotundata; caulina semiamplexicaulia.

FLORES minimi, lutei, semper fecundi.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, obtusis, concavis, subrectis, flavescentibus. *fig. 1. auct.*

COROLLA; PETALA quatuor, lutea, sæpius emarginata, vix longitudine calycis. *fig. 2.*

STAMINA: FILAMENTA sex, subæqualia, longitudine pistilli, flavescentia. ANTHERÆ luteæ, incumbentes. *fig. 3.*

PISTILLUM: GERMEN oblongum. STYLUS brevissimus. STIGMA capitatum, villosum. *fig. 4.*

PERICARPIUM: SILIQUA teres, longitudine pedunculi, sursum subarcuata, feminibus plurimis haud æqualiter protuberantibus turgida. *fig. 5, 6.*

SEMINA minima, fusca, *fig. 7.*

ROOT annual, fibrous and whitish.

STALK a foot, a foot and a half, or more, in height, generally upright, branched, grooved, smooth, of a green or purplish colour.

LEAVES, all of them pinnatifid, somewhat like those of Hedge-mustard, smooth, the pinnæ consist of three, four, or six pair, with an odd one, all of them unequally indented, the outermost especially in the bottom leaves roundish, those of the stalk partly amplexicaule.

FLOWERS very small, yellow, and always producing seed.

CALYX: a PERIANTHIUM of four leaves, which are ovate, obtuse, hollow, nearly upright, and yellowish. *fig. 1. magn.*

COROLLA: four PETALS, of a yellow colour, generally nicked at the end, scarcely the length of the calyx. *fig. 2.*

STAMINA: six FILAMENTS, nearly equal, the length of the pistillum, of a yellowish colour. ANTHERÆ yellow and incumbent. *fig. 3.*

PISTILLUM: GERMEN oblong. STYLE very short. STIGMA forming a little head and villous. *fig. 4.*

SEED-VESSEL a round POD, the length of the flower-stalk, somewhat curved upward, turgid with numerous seeds which protuberate unequally. *fig. 5, 6.*

SEEDS very small and brown. *fig. 7.*

We have taken the name of *terrestre*, which LINNÆUS applies to the third variety of his *Sisymbrium amphibium*, not so much from the certainty of its being the plant he intends, as from the propriety of its application to this species, it being generally found in dryer situations than the true *amphibium*.

Repeated observation and culture have thoroughly satisfied us that the present plant is a species perfectly distinct from the *amphibium*; and we ground our authority for considering it as such on the following circumstances.

1st, It is an annual, whereas the *amphibium* is not only a perennial, but has a creeping root.

2dly, It is a much smaller plant than the *amphibium*, seldom acquiring half its height.

3dly, It is seldom or never found in the water, unless accidentally overflown.

4thly, Its foliage is very different, the radical leaves much resembling those of the *Erysimum officinale*.

And, lastly, its seed vessels are always turgid, and full of seeds, while those of the *amphibium* are usually abortive.

As we can find no satisfactory account of this plant either in RAY, HUDSON, LINNÆUS, HALLER, or the numerous authors we have consulted, we have omitted all synonyms, and contented ourselves with giving it a new specific character, chiefly intended to contrast it with the *amphibium*.

In the course of our botanical researches we have had frequent occasion to remark, that our most common plants are the least known; we seek with avidity such as are rare and with difficulty acquired, and neglect those that we daily tread under foot. The present plant affords an instance of this inattention, as it is a very common one in the environs of London, and found in the same situations as the *Rumex maritimus*, on the edges of wet ditches, and on ground apt to be occasionally overflown. We have observed it in *Totbill-Fields*, on the edge of a ditch by the roadside leading from the *Magdalen Hospital* to *Lambeth Marsh*, and in our garden it comes up spontaneously as a common weed.

When this plant grows by itself, in a situation tolerably dry, it grows quite erect, and quickly produces a considerable quantity of seeds. Should it happen to be overflown, which is frequently the case, it is then more procumbent, and will sometimes take root at the joints, in which state it appears to be the *Sisymbrium palustre repens* *perov fl.* of VAILLANT, at least it accords in part.

This species of *Sisymbrium* flowers in June, July, August, and September.

It has a similar taste to most of the plants of the cress kind, but is not very pungent.





Sinapis arvensis.

SINAPIS ARVENSIS. CHARLOCK.

SINAPIS *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Cal. patens. Cor. unguis recti. Glandula inter stamina breviora et pistillum, interque longiora et calycem.

Raii Syn. Gen. 15. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SINAPIS *arvensis* filiquis multangulis toroso-turgidis lævibus rostro ancipiti longioribus. *Lin. Syst. Vegetab. p. 503. Sp. Plant. p. 933. Fl. Suec. 610. Haller. Hist. n. 467.*

SINAPIS *arvensis. Scopoli Fl. Carn. n. 842.*

RAPISTRUM flore luteo. *Bauh. Pin. 95.*

RAPISTRUM arvorum. *Ger. emac. 233. Parkins. 362. Raii Syn. 295. Charlock or Wild Mustard. Hudson. Fl. Angl. p. 298. Lightfoot Fl. Scot. p. 360.*

RADIX annua, simplex, fibrosa, rigida, albida.

CAULIS pedalis, sesquipedalis, et ultra, ramosus, teres, solidus, striato-fulcatus, hispidus, purpurascens, ramis diffusis.

FOLIA alterna, petiolata, patentia, scabriuscula, venosa, dentato-ferrata, ovato-lanceolata, sæpe integra, sæpius vero basi sinuata, raro pinnata.

FLORES lutei, terminales, pedunculati.

PEDUNCULI longitudine calycis; hispiduli.

CALYX: PERIANTHIUM tetraphyllum, foliolis linearibus, canaliculatis, patentibus, flavis, obtusis, pilosis, *fig. 1.*

COROLLA: PETALA quatuor, lutea, obcordata, unguiculata, patentia, unguibus longitudine fere calycis, *fig. 1.*

NECTARIA: Glandulæ quatuor saturate virides.

STAMINA: FILAMENTA sex, quorum duo breviora, lutea, subulata. ANTHERÆ concolores, incumbentes, primo sagittatæ, apicibus demum revolutis, *fig. 3.*

PISTILLUM: GERMEN cylindraceum, longitudine fere styli, et paulo crassior, nunc læve, nunc hirsutum. STYLUS longitudine staminum. STIGMA capitatum, bilabiatum, *fig. 4.*

PERICARPIUM: SILIQUA teres, vix angulosa, patens, lævis aut hirsuta, polysperma, rostro brevi sub-tetragono terminata, *fig. 5, 6.*

SEMINA plurima, minuta, nigricantia.

ROOT annual, simple, fibrous, rigid, and whitish.

STALK from one to a foot and a half high, upright, branched, round, solid, striated or grooved, hispid, and purplish, the branches spreading wide.

LEAVES alternate, standing on foot-stalks, spreading, roughish, veiny, indented or serrated, ovato-lanceolate, often entire, but most commonly jagged at the base, rarely pinnated.

FLOWERS of a yellow colour, growing in heads, and standing on flower-stalks.

FLOWER-STALKS the length of the calyx, slightly hispid.

CALYX: a PERIANTHIUM of four leaves, the leaves linear, hollowed above, spreading, yellow, blunt and hairy, *fig. 1.*

COROLLA: four PETALS of a yellow colour, inversely heart-shaped, spreading, claws almost the length of the calyx, *fig. 2.*

NECTARIES: four Glands of a deep green colour.

STAMINA: six FILAMENTS, two of which are shorter than the rest, yellow and tapering. ANTHERÆ of the same colour, incumbent, first arrow-shaped, tips finally rolling back, *fig. 3.*

PISTILLUM: GERMEN cylindrical, almost the length of the style, and a little thicker, sometimes smooth, sometimes a little hairy. STYLE the length of the stamens. STIGMA forming a little head, divided into two lips, *fig. 4.*

SEED-VESSEL a round Pod, scarce perceptibly angular, spreading, smooth or hirsute, containing many seeds, terminated by a short somewhat four-cornered beak, *fig. 5, 6.*

SEEDS numerous, minute, and blackish.

There are three plants peculiar to corn fields, which, in various parts of the kingdom, are more or less common, and all of which are apt indiscriminately to be called CHARLOCK: these are the *Sinapis arvensis*, *Sinapis alba*, and *Raphanus Raphanistrum*; the first and the last of which are by far the most general. The name of *Charlock* ought, however, to be confined to the *Sinapis arvensis*, the most noxious weed of the three, and as such most carefully to be extirpated from among the corn.

The leaves of this plant, on their first appearing above ground, and for some time afterwards, resemble those of the turnip so much, that we have known an intelligent farmer deceived by them, and mistaken in his crop. The whole plant, when young, is often eaten by the labouring part of the community; and, like turnip-tops, is no bad substitute to other culinary plants in times of scarcity.

June is the month in which the Charlock flowers most plentifully; but it may frequently be found in blossom earlier, as well as much later. It is not confined to corn fields, but is almost equally common among rubbish.

It varies much in height, colour of its stalk, number of its branches, and degree of hairiness. Among corn it grows taller, and is less branched. The stalk, in some situations, is wholly green; but is more frequently purple at the joints, and very often wholly so. The seed-vessels also vary much in colour and hairiness. We have not observed the flowers subject to any variation of colour.

For the means of distinguishing it from the *Raphanus Raphanistrum*, which at first sight it considerably resembles, vid. *Raphanus Raphanistrum* already figured.







Sinapis alba.

SINAPIS ALBA. WHITE MUSTARD.

SINAPIS *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Cal. patens. *Cor.* unguis recti. *Glandula* inter stamina breviora et pistillum, interque longiora et calycem.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SINAPIS alba, filiquis hispidis: rostro obliquo longissimo ensiformi. *Lin. Syst. Vegetab.* p. 503. *Sp. Pl.* p. 933. *Haller Hist.* 466.

SINAPIS alba. *Scopoli Fl. Carn.* n. 843.

SINAPI apii foliis. *Baub. Pin.* 99.

SINAPI album filiqua hirsuta, femine albo vel ruffo. *I. B.* II. 856.

SINAPI sylvestre minus? *Parkins.* 830. *Raii Syn.* p. 295. White Mustard. *Hudson. Fl. Angl. ed.* 2. p. 298. *Lightfoot Fl. Scot.* p. 361.

RADIX annua, simplex, fibrosa, albida.

CAULIS sesquipedalis ad bipedalem, erectus, ramosus, crassiusculus, striatus, tener, fragilis, hirsutus, pilis numerosis, rigidiusculis, deorsum versis.

FOLIA petiolata, alterna, radicalia et pleraque caulina, pallide virentia, venosa, utrinque hirsutula, pinnis trium circiter parium, inferioribus minimis, extima subtriloba, omnibus varie dentatis.

FLORES lutei, terminales.

PEDUNCULI tetragono-striati.

CALYX: PERIANTHIUM tetraphyllum, foliolis patentibus, concavis, deciduis, lævibus, sublineari-bus, apice obtusis, fig. 1, 2.

COROLLA: PETALA quatuor, subrotunda, plana, patentia, integra, unguibus erectis, linearibus, longitudine vix calycis, fig. 3.

STAMINA: FILAMENTA sex, quorum duo breviora, virentes, subulata. ANTHERÆ luteæ, erectæ, subagittatæ, fig. 4.

GLANDULÆ ut in plerisque hujus generis, fig. 5.

PISTILLUM: GERMEN obovatum, subangulosum, ad lentem hispidum. STYLUS subulatus, anceps, germine duplo fere longior, staminibus paulo brevior. STIGMA capitatum, fig. 6.

PERICARPIUM: SILIQUA hirsuta, subarticulata, sub-tetrasperma, rostro longissimo ensiformi terminata, fig. 7, 8.

SEMINA majuscula, fusca, fig. 9.

ROOT annual, simple, fibrous, and whitish.

STALK a foot and a half to two feet high, upright, branched, somewhat clumsy, finely grooved, tender, brittle, and hirsute, the hairs numerous, stiffish, and turned downward.

LEAVES standing on foot-stalks, alternate, those next the root and most of those on the stalk pinnated, of a pale green colour, veiny, slightly hirsute on both sides, composed of three or four pair of pinnæ, the lowermost of which are very small, the terminal one often three-lobed, and all of them variously indented.

FLOWERS yellow, and terminal.

FLOWER-STALKS having four grooves or corners.

CALYX: a PERIANTHIUM of four leaves, which are spreading, concave, deciduous, smooth, somewhat linear, and blunt at top, fig. 1, 2.

COROLLA: four roundish PETALS, flat, spreading, entire, claws upright, linear, scarcely the length of the calyx, fig. 3.

STAMINA: six FILAMENTS, two of which are shorter than the rest, of a greenish colour, and tapering. ANTHERÆ yellow, upright, somewhat arrow-shaped, fig. 4.

GLANDS as in most of this genus, fig. 5.

PISTILLUM: GERMEN inversely ovate, slightly angular, hispid when magnified. STYLE tapering, two-edged, almost twice the length of the germen, and a little shorter than the stamina. STIGMA forming a little head, fig. 6.

SEED-VESEL: a hairy POD, somewhat jointed, containing about four seeds, terminated by a very long sword-shaped beak, fig. 7, 8.

SEEDS rather large and brown, fig. 9.

In the corn-fields in Buckinghamshire, especially about High Wycomb, the *Sinapis alba* is as common, and as troublesome a weed among the corn as the *arvensis*: with us it is found more sparingly. It is frequently met with on banks, and among the corn in Battersea-fields, and well known to constitute a part of young fallading.

RAY has been particularly happy in pointing out the striking characters of the several species of *Sinapis*, which LINNÆUS has adopted. The seed-vessels, either in their form, size, or manner of growth, will always with certainty distinguish them; but as these plants may occur when they are not sufficiently advanced to exhibit those characters, it is necessary to call in others to our assistance: we may then, in addition to LINNÆUS's specific characters, observe, that the *Sinapis alba* is most obviously distinguished from the *nigra* by having its stalk finely grooved, and strongly haired, and from the *arvensis*, for which it is perhaps much more liable to be mistaken, by having its leaves more divided or jagged as our figure expresses.

It flowers in June, and ripens its seeds in July.





Geranium cicutarium.

GERANIUM CICUTARIUM. HEMLOCK-LEAV'D CRANE'S-BILL.

GERANIUM *Linnaei Gen. Pl.* MONADELPHIA DECANDRIA.

Monogyna. *Stigmata* quinque. *Fructus* rostratus, pentacoccus.

Raii Synop. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *cicutarium* pedunculis multifloris, floribus pentandris, foliis pinnatis incisus obtusis, caule ramofo. *Linnaei Syst. Vegetab. p. 90. Fl. Suecic. p. 243.*

GERANIUM petiolis multifloris, caule procumbente, foliis duplicato-pinnatis, pinnulis acute incisus. *Haller hist. No. 944.*

GERANIUM cicutæ folio minus, et supinum. *Bauhin pin. 319.*

GERANIUM cicutæ folio inodorum album. *Gerard emac. 945. 946.*

GERANIUM moschatum inodorum. *Parkinson 1708. Raii Syn. 357.* Field Crane's-bill without scent. *Hudson Fl. Angl. 262.*

RADIX annua, albida, simplex, carne tenera, cum nervo intus duriore et tenaciore, paucis fibris instructa, crassiuscula, et in terram alte descendens.

CAULES ex eadem radice nascuntur plures, crassiusculi, teretes, hirsuti, procumbentes, ramofo, variae longitudinis pro ratione loci.

FOLIA pinnata, pinnis sessilibus pubescentibus, pinnulis acute incisus.

STIPULÆ ad exortum foliorum membranaceæ, albidæ, ovato-acutæ, superiore integra, *fig. 1*; inferiore in duas divisæ, *fig. 2*.

PEDUNCULI axillares, alterni, hirsuti, multiflori, longitudine foliorum.

FLORES umbellati, rosei, a tribus ad sex.

INVOLUCRUM membranaceum, multidentatum, *fig. 3*; PEDICELLI basi crassiores, flexi et demum affurgentes.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, striatis, hirsutis, concavis, mucronatis, *fig. 4*.

COROLLA: PETALA quinque, subovata, plana, subæqualia, rosea, basi hirsuta, calyce longiora, *fig. 5*.

STAMINA: FILAMENTA decem, quorum quinque alterna Antheris carent *fig. 7*: ANTHERÆ saturate purpurascens, *fig. 6*.

NECTARIA: Glandulæ quinque fuscæ circa basin staminum locantur, *fig. 9*.

PISTILLUM: GERMEN quinquangulare, villosum; STYLUS subulatus, sulcatus; STIGMATA quinque purpurascens, paululum reflexa, *fig. 10, 11*.

PERICARPIUM nullum; FRUCTUS pentacoccus, rostratus.

SEMEN oblongum, læve, fuscum, arillatum, *fig. 14*, ARILLA hirsuta; ARISTA prælonga pilosa instructa quæ demum spiralis evadit, *fig. 12, 13*.

ROOT annual, whitish, simple, tender, the string or nerve in the middle of it hard and tough, furnished with few fibres, large for the size of the plant, and penetrating deep into the earth.

STALKS: several usually spring from the same root, thickish, round, hirsute, procumbent and branched, of various lengths according to their place of growth.

LEAVES pinnated, the pinnæ sessile and slightly hairy, the pinnulæ sharply indented.

STIPULÆ at the base of the leaves membranous, whitish, acutely oval, the uppermost entire, *fig. 1*; the lowermost generally divided into two, *fig. 2*.

FOOT-STALKS of the flowers springing from the base of the leaves, alternate, hirsute, the length of the leaves, and supporting many flowers.

FLOWERS growing in an Umbell, from three to six, of a rose-colour.

INVOLUCRUM membranous, with many teeth, *fig. 3*; the small foot-stalks of the flowers thickest at bottom, turning down, and lastly turning upward.

CALYX: a PERIANTHIUM of five leaves, the folioli oval, striated, hirsute, concave, and terminating in a fine point, *fig. 4*.

COROLLA: five PETALS, somewhat oval, flat, nearly equal, of a rose colour, hairy at bottom, somewhat longer than the Calyx, *fig. 5*.

STAMINA: ten FILAMENTS, five of which want the Antheræ, the ANTHERÆ of a deep purple colour, *fig. 6*.

NECTARIA: five brown Glands placed round the base of the Stamina, *fig. 9*.

PISTILLUM: GERMEN quinquangular and villous, STYLE tapering and grooved; STIGMATA five, of a purple colour, bending a little back, *fig. 10, 11*.

SEED-VESSEL none; FRUIT as yet unripe, formed of five protuberating seeds, and terminating in a long beak.

SEED oblong, smooth, brown, inclosed within an ARILLUS, *fig. 14*, which is hirsute, and furnished with a long hairy ARISTA, finally becoming spiral, *fig. 12, 13*.

We have often had occasion to remark the very great difference in the appearance of plants arising from soil and situation; of this the young Botanist cannot be too well apprised, nor too often informed: from a want of attention to this circumstance, the plant which we have now described, has been divided by different Authors into several species.

It seems worthy of notice, that the alterations which are produced in plants from growing in a richer soil, are chiefly those of increase of size, and a multiplication of their parts; the minutiae of the fructification suffer but little change in their form by culture, hence they are often most to be depended on, even in ascertaining different species.

When the *Geranium Cicutarium* grows on a dry sandy bank, or wall, as it very frequently does, it is quite diminutive; when it occurs in a moister and more luxuriant soil, the branches extend often a foot or two in length, and the whole plant becomes so altered in its general appearance, as readily to deceive the inexperienced Tyro; but the long pointed fruit which occurs in both, and from whence this plant has obtained the name of *Crane's-bill*, readily points them out to be the same.

The seeds of the *Geraniums* are, in general, enclosed within a membranous *Arillus*, which terminates in an *Arista* or *Tail*, of different lengths in different species; in some of them, when the seeds are become ripe, they detach themselves from the receptacle, to which they are affixed, with considerable elasticity, and the seeds being loosely contained within the *Arillus*, are thrown out to a considerable distance. In the present species, the seeds are more closely invested by the *Arillus*, which does not separate itself with so much force, and as soon as detached, the *Arista* begins to be twisted up in a spiral form. This may be very distinctly observed if we separate a seed, with its *Arillus*, as soon as ripe, and place it in the palm of the hand, the tail of the *Arillus* immediately appears in motion, as if endued with some sensitive property, and continues uninterruptedly this motion, 'till it has assumed the form of a screw, *vid. fig. 13*. The seed thus furnished with its twisted *Arista*, is more liable to attach itself to any thing which may come in contact with it, by which means this plant is more universally disseminated.

The *Geranium moschatum* has a great affinity with this species, that plant however has a strong smell of musk, which this entirely wants; and has also many other peculiarities, which we shall not fail to particularize when it comes to be treated of.





Geranium pratense

GERANIUM PRATENSE. CROWFOOT CRANESBILL.

GERANIUM *Lin. Gen. Pl.* MONADELPHIA DECANDRIA.

Monogyna. *Stigmat.* 5. *Fructus* rostratus, 5-coecus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *pratense* pedunculis bifloris, foliis subpeltatis multipartitis rugosis acutis, petalis integris.
Lin. Syst. Veget. p. 514. *Sp. Pl.* p. 954. *Fl. Suec.* n. 968.

GERANIUM caule erecto, foliis rugosis hirsutis multilobis, lobis trifidis, lobulis semipinnatis, floribus umbellatis. *Haller. Hist.* n. 931.

GERANIUM *pratense* *Scopoli Fl. Carn.* n. 852.

GERANIUM batrachoides, Gratia Dei Germanorum. *Bauh. Pin.* 318.

GERANIUM Batrachoides. *Ger. emac.* 922.

GERANIUM Batrachoides flore cæruleo. *Park.* 704. *Raii Syn.* ed. 3. p. 360. Crowfoot Cranesbill.
Hudson Fl. Angl. ed. 2. p. 302. *Lightfoot Fl. Scot.* p. 363.

RADIX perennis, crassitie digiti minimi aut major, horizontalis, rugosa, e rubro fusca, intus flavescens, fibris majusculis profunde penetrantibus instructa.

CAULIS pedalis ad tripedalem, erectus, ramosus, teretiusculus, pubescens, basi ruberrimus, subangulosus.

FOLIA hirsutula, radicalia longissime petiolata, suprema subsessilia, omnibus multipartitis, venosis, subtus pallidioribus, lacinis multifidis, incis. PETIOLI teretes, pubescentes.

STIPULÆ ad basin foliorum utrinque binæ, ovato acuminatæ, primo rubicundæ, dein marcescentes, ad basin pedunculorum quinæ, lanceolatæ.

PEDUNCULI gemini, pilosissimi, viscosi, primo nudentes, demum erecti.

FLORES magni, speciosi, e purpureo cærulei.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis ovatis, acutis, concavis, margine membranaceis. *fig. 1.*

COROLLA: PETALA quinque, subintegerrima, venosa, basi utrinque hirsutula. *fig. 2.*

STAMINA: FILAMENTA decem subulata, superne purpurascens, inferne lata, albida; ANTHERÆ oblongæ, cæruleæ, incumbentes. *fig. 3.*

PISTILLUM: GERMEN pentagonum, viscosum, viride; STYLUS filiformis, rubicundus, staminibus longior; STIGMA quinquefidum, laciniis linearibus, reflexis. *fig. 4.*

SEMEN oblongum, læve, ex arillo elastice diffiliens. *fig. 5, 6.*

ROOT perennial, the thickness of the little finger, or larger, horizontal, wrinkled, of a reddish brown colour, yellowish within, furnished with largish fibres, which penetrate to a great depth. STALK from one to three feet in height, upright, branched, roundish, downy, very red, and somewhat angular at the bottom.

LEAVES somewhat hirsute, those next the root, standing on very long footstalks, the uppermost ones nearly sessile, all of them deeply divided into many segments, veiny and paler underneath, the segments jagged.

LEAF-STALKS round and downy.

STIPULÆ at the base of the leaves two on each side, ovate and pointed, at first reddish, afterwards withering, those at the base of the peduncles five in number, and lanceolate.

FLOWER-STALKS growing two together, very hairy, clammy, at first drooping, lastly upright.

FLOWERS large, showy, of a purplish blue colour.

CALYX: a PERIANTHIUM of five leaves and permanent, the leaves ovate, pointed, concave, bearded, clammy, ribbed and membranous at the edge. *fig. 1.*

COROLLA: five PETALS, nearly entire, veiny, hairy on each side the base. *fig. 2.*

STAMINA: ten FILAMENTS, tapering, purplish above, below broad and whitish; ANTHERÆ oblong, blue and incumbent. *fig. 3.*

PISTILLUM: GERMEN pentagonal, clammy, of a green colour; STYLE filiform, reddish, longer than the stamina; STIGMA divided into five segments, which are linear and turned back. *fig. 4.*

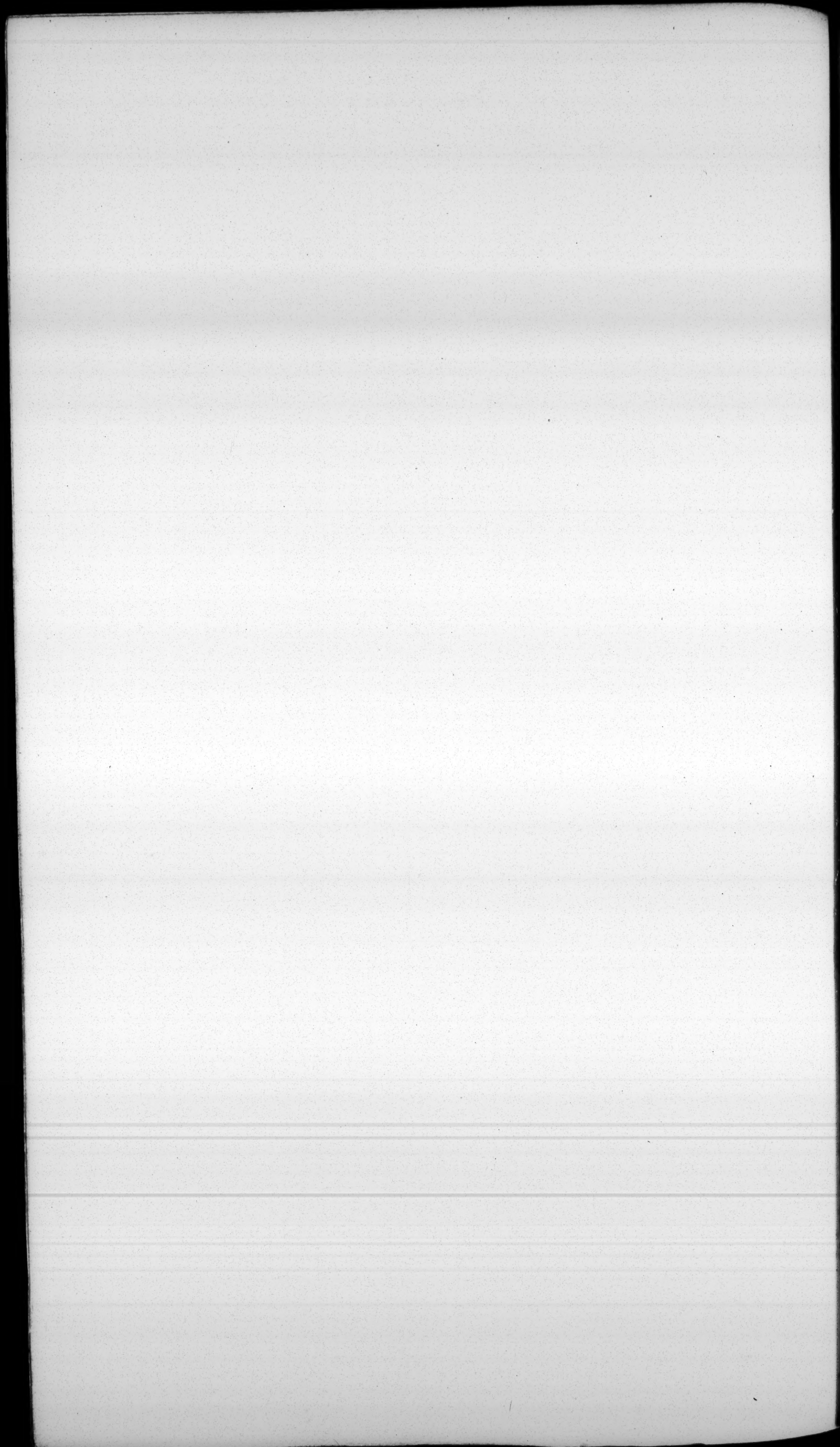
SEED oblong, smooth, thrown from the seed-covering with considerable elasticity. *fig. 5, 6.*

This is by far the most showy of the Cranesbills growing wild with us, and in that respect is exceeded by none of the English ones except the *Sanguineum*. Its leaves are large, and somewhat like those of the Meadow Crowfoots, whence its name.

Its beauty has long since recommended it to the notice of the curious in flowers, in the gardens of which we find it not only as it commonly occurs, but also with white, purple, and striped blossoms.

It loves a moist situation, as it naturally grows wild in meadows, which it ornaments with its blossoms in July and August. Near London it is found in tolerable abundance in the meadows about Battersea, and in the vicinity of the *Thames* both above and below bridge; in many parts of *Yorkshire*, particularly about *Settle*, it is almost as common as the Mallow is with us, not only in meadows, but every where under their stone walls.

The blossoms are much resorted to by various species of flies, particularly those of the Genus *Empis*.







Geranium pyrenaicum

GERANIUM pyrenaicum. perennial DOVES-FOOT CRANESBILL.

GERANIUM *Lin. Gen. Pl.* MONADELPHIA DECANDRIA.

Monogyna. *Stigmat. 5.* *Fruetus* rostratus, 5-coccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *pyrenaicum* pedunculis bifloris, foliis inferioribus quinquepartito-multifidis, rotundatis; superioribus trilobis, caule erecto. *Linn. Syst. Vegetab. p. 514.*

GERANIUM pedunculis bifloris, foliis multifidis, laciniis obtusis, inæqualibus, petalis bifidis. *Gerard. Fl. Gallo-prov. p. 434. fig. 16. 2. Hudson Fl. Angl. ed 2. p. 302. Lightfoot Fl. Scot. p. 367.*

RADIX perennis.

CAULES suberecti, pubescentes, pedales, et ultra, ramosi, geniculati, geniculis paululum incrassatis.

FOLIA *radicalia* rotundata, hirsutula, venosa, margine sæpe rubicunda, septemlobata, lobis subtrifidis, laciniis obtusiusculis, mucronatis, intermedia majore; *caulina* opposita, lobis paucioribus, iisque postice magis remotis.

PETIOLI *radicales*, prælongi, teretes, pubescentes, si distendantur extremitatibus suis puncta quatuor alba exhibentes.

STIPULÆ ad singula genicula quaternæ, utrinque binæ, genicula ambientes, bifidæ, vel trifidæ, rubentes, persistentes.

PEDUNCULI pubescentes, bifidi, biflori, Pedicelli longitudine pedunculi, basi stipulis quaternis minoribus notati.

FLORES majusculi, purpurei, antequam aperiuntur nutantes, postea erecti.

CALYX: PERIANTHIUM quinquepartitum, laciniis ovato-lanceolatis, brevi mucrone fusco obtusiusculo terminatis, trinerviis, ciliatis, subviscosis. *fig. 1.*

COROLLA: PETALA quinque, calyce duplo longiora, obcordata, apice bifida, basi villosa. *fig. 2.*

NECTARIUM: Glandulæ quinque flavescentes ad basin Stamini. *fig. 5.*

STAMINA: FILAMENTA decem, alba, apice purpurascens; ANTHERÆ cæruleæ; POLLEN album, globosum. Antheræ extus posita pollen præ cæteris dimittunt, et dein decidunt, nunquam vero abortiunt. *fig. 3.*

PISTILLUM: GERMEN pentagonum, viride; STYLUS sulcatus; STIGMATA quinque, longitudine Antherarum. *fig. 4.*

FRUCTUS pentacoccus, *Arillus* carinatus, hirsutulus. *fig. 6.*

SEMEN ovatum, fuscum, læve.

ROOT perennial.

STALKS nearly upright, and downy, a foot high, or more, branched, and jointed, the joints a little swelled.

LEAVES of the root of a roundish figure, somewhat hirsute, and veiny, the edge often reddish, divided into seven lobes, each of which is subdivided into about three bluntish segments, terminated by a short point, the middle segment the largest; those of the stalk opposite, composed of fewer lobes, and those more widely separating behind.

LEAF-STALKS next the root very long, round, and downy, exhibiting if cut across four white dots on their extremities.

STIPULÆ: four at each joint, two on each side, surrounding the joint, divided into two or three segments, of a reddish colour and permanent.

FLOWER-STALKS downy, bifid, supporting two flowers, Partial flower-stalks the length of the general one, and furnished at bottom with four smaller stipulæ.

FLOWERS largish and purple, before they open hanging down, afterwards becoming upright.

CALYX: a PERIANTHIUM divided into five oval pointed segments, terminated by a short brown bluntish point, having three ribs, edged with hairs, and slightly clammy. *fig. 1.*

COROLLA: five PETALS twice the length of the calyx, inversely heart shaped, bifid at top, at bottom villous. *fig. 2.*

NECTARY: five yellowish Glands placed at the bottom of the Stamina. *fig. 5.*

STAMINA: ten FILAMENTS, purplish at top, ANTHERÆ blueish; POLLEN white and globular. The outer row of antheræ shed their pollen first and then drop off, but are never infertile. *fig. 3.*

PISTILLUM: GERMEN five corner'd, of a green colour; STYLE grooved; STIGMATA five, the length of the Antheræ. *fig. 4.*

FRUIT composed of five prominent seeds, seed-covering mark'd with a prominent line, and slightly hirsute. *fig. 6.*

SEED oval, brown, and smooth.

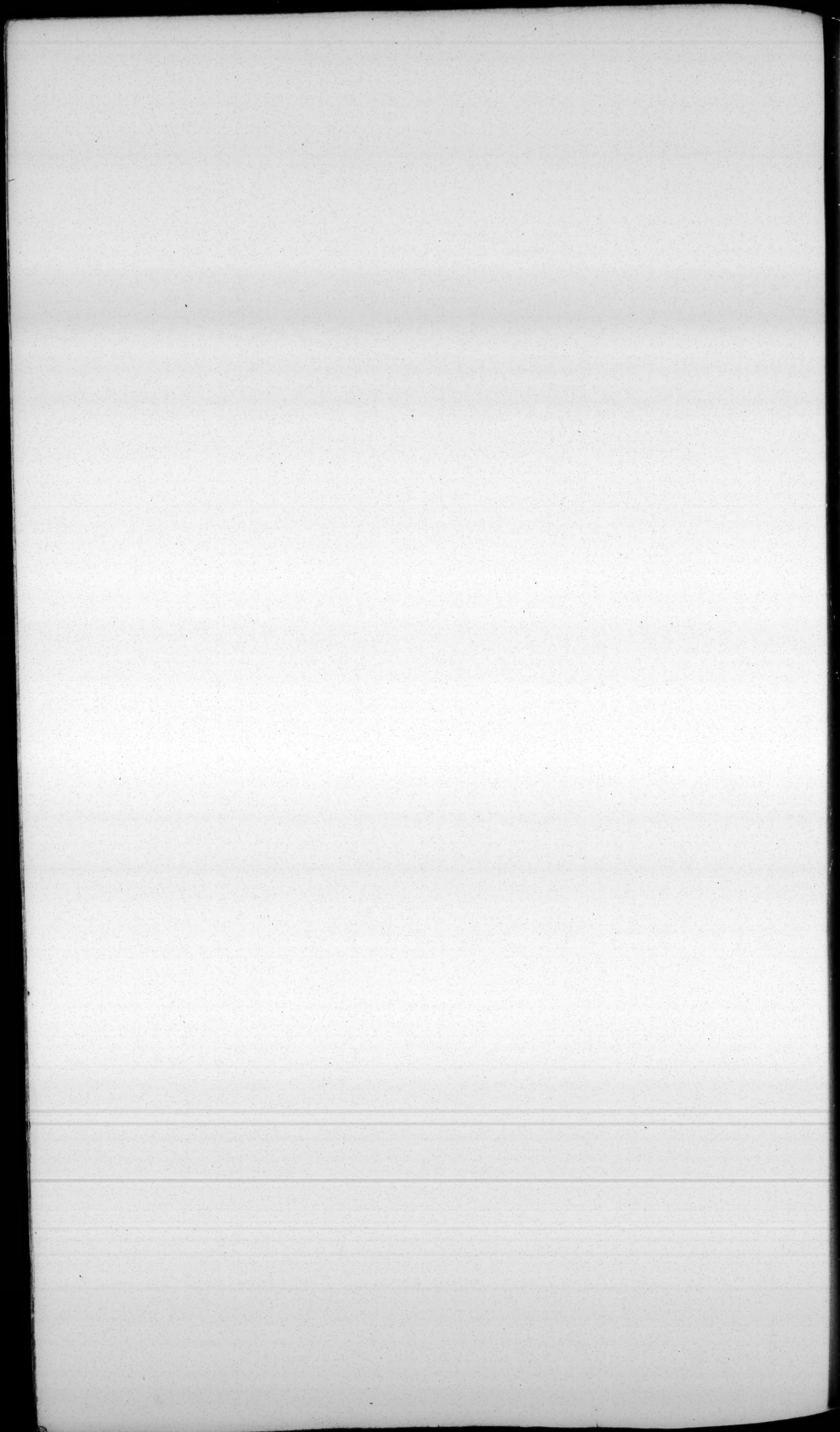
The great similarity existing between the present Geranium, the *molle*, and *rotundifolium*, has occasioned no small confusion among the synonyms of Authors, which as Haller observes, are covered with impenetrable obscurity.

Nevertheless an attentive observance of the plants themselves, as they grow wild, will shew that they may be distinguished without any great difficulty. In treating of the *molle* which is the most liable to be mistaken for this species, I observed that it was subject to many varieties, particularly in the colour of its blossoms, that its stalks, always procumbent when the plant grew alone, were liable to grow upright among grass and herbage, and that in some rich pastures the flowers approached almost to the size of those of the present plant.—Having cultivated most of our English Geraniums I can with certainty declare that the *molle* is strictly an annual, and the *pyrenaicum* perennial, this then constitutes an essential difference between the two, besides, the *pyrenaicum* usually grows to twice the size, its blossoms also are more than thrice as large, it is never procumbent but always nearly upright, and it is likewise, with us at least, a much scarcer plant,

Mons: GERARD in his *Flora Galloprovincialis* has the merit of first giving an accurate description and figure of this plant, he supposes it to be the *Geranium columbinum perenne pyrenaicum maximum* of TOURNEFORT whence LINNÆUS has given it the name of *pyrenaicum*; Mr. HUDSON in the first edition of his *Flora Anglica* called it *perenne*, but in the last he has adopted the name of LINNÆUS, I have hitherto found this plant growing wild in one spot only, viz. in the dry part of the pasturage in Battersea Fields, on the left hand side of the road as you pass from London by the Thames side, betwixt the Red House and Chelsea Bridge.

In Chelsea Garden it comes up as a weed and is there found also with white flowers.

It blows in June and July.







Geranium molle



Samuel Smith

GERANIUM MOLLE. COMMON DOVES-FOOT CRANES-BILL.

GERANIUM *Linnaei* Gen. Pl. MONADELPHIA DECANDRIA.

Monogyna. Stigmat. 5. Fructus rostratus, 5-coccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *molle* pedunculis bifloris, foliisque floralibus alternis, petalis bifidis, calycibus muticis, caule erectiusculo. *Linnaei Syst. Vegetab. p. 515. Sp. Pl. p. 955. Fl. Succic. p. 577.*

GERANIUM foliis mollissimis, hirsutis, reniformibus, femiquinquefidis, lobis semitripartitis, obtusis. *Haller hist. n. 939.*

GERANIUM *molle. Scopoli Fl. Carniol. an nostra planta?*

GERANIUM columbinum villosum, petalis bifidis purpureis. *Vaill. Paris. 79. t. 15. fig. 3.*

GERANIUM columbinum. *Ger. emac. 938.*

GERANIUM columbinum vulgare. *Parkinson 706. Raii Syn. p. 359, Doves-foot, or Doves-foot-Cranes-bill.*

GERANIUM folio malvæ rotundo. *Baubin. Pin. 318.*

Hudson Fl. Angl. p. 265.

Lightfoot Fl. Scot. p. 370.

RADIX annua, fusiformis, simplex.

CAULES plures, ut plurimum procumbentes, teretes, rubicundi, dodrantes aut pedales, villosi, ramosi.

FOLIA radicalia petiolis longis, teretibus, villosis, infidentia, subrotunda, villosa, subtus venosa, septemfida, laciniis incis, caulina alterna in lacinias pauciores, angustiores et acutiores divisa.

STIPULÆ ad singula genicula quaternæ, membranaceæ, marescentes.

PEDUNCULI longitudine et forma petiolorum usque oppositi, bifidi, biflori: pedicelli pedunculo triplo fere breviores, stipulis minoribus ad basin cinctis, ad lentem subviscosis.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-acutis, trinerviis, pilosis, inæqualibus, brevi mucrone, rufo, non admodum acuto, terminatis, fig. 1.

COROLLA: PETALA quinque purpurea, obcordata, calyce paulo longiora, unguibus parvis, utrinque ciliatis.

STAMINA: FILAMENTA decem, alba, æqualia, basilata, vix coalescentia: ANTHERÆ cœruleæ, fig. 2.

PISTILLUM: GERMEN quinquangulare: STYLUS subulatus, viscosus: STIGMATA quinque, rubra, reflexa, fig. 3, 4.

SEMINA quinque, ovata, glabra, fig. 5, 7, 8. *Arillo rugoso tecta, fig. 6.*

ROOT annual, tapering, and simple.

STALKS several, procumbent, round, of a reddish colour, from nine inches to a foot in length, villous, and branched.

LEAVES: those next the root sitting on long, round, villous foot-stalks, of a roundish form, hoary, and veiny underneath, deeply divided into seven segments, which are jagged: the leaves on the stalk alternate, divided into fewer segments, which are narrower and more pointed.

STIPULÆ four at each joint, membranous, and withering.

FLOWER-STALK: general flower-stalk the length and form of the leaf-stalks, and growing opposite to them, bifid, and supporting two flowers: partial flower-stalks nearly three times shorter than the general one, surrounded at their base by smaller stipulæ, some of the hairs on which appearing glandular if viewed with a glass.

CALYX: a PERIANTHIUM of five leaves, oval, pointed, having three ribs, hairy, unequal, and terminated by a reddish and somewhat blunt point, fig. 1.

COROLLA: five purple PETALS, inversely heart-shaped, a little longer than the Calyx, the claws small, and edged on each side with hairs.

STAMINA: ten white FILAMENTS, of an unequal length, broad at bottom, but not perceptibly united: ANTHERÆ blue, fig. 2.

PISTILLUM: GERMEN five-cornered: STYLE tapering, with glandular hairs: STIGMATA five, of a red colour, and turning back, fig. 3, 4.

SEEDS five, oval and smooth, fig. 5, 7, 8, covered with a wrinkled Arillus, fig. 6.

THE *Geranium molle* is the most common of all our *Geraniums*, and one of the earliest in blossom, beginning to blow in April, and continuing through the Summer. Its most natural situation is on a dry bank; yet it very often is found in pastures, and under walls. If growing by itself, the stalks are usually procumbent; among other plants it is often drawn upright.

It varies very much in size; the flowers also vary much both in size and colour. In the *Lawn* before *Chelsea Hospital*, I have noticed this plant almost as large as the *pyrenaicum* of LINNÆUS. Its flowers are sometimes white, sometimes pale red, with many gradations of purple.

It is most likely to be mistaken for the *rotundifolium* and *pyrenaicum*, neither of which are common plants with us: in what respect it differs from these, we shall mention when they come to be described.

We may remark here, that the *Arilli*, or coverings of the seeds, fig. 6, are curiously wrinkled; but the seeds themselves are perfectly smooth.







Geranium dissectum

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GERANIUM DISSECTUM. JAGGED CRANE'S-BILL.

GERANIUM. *Linn. Gen. Pl.* MONADELPHIA DECANDRIA.

Monogyna. Stigmata 5. Fructus rostratus, pentacoccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *dissectum* pedunculis folio brevioribus, foliis quinquepartito-trifidis multifidisque, petalis, emarginatis, arillis villosis. *L'Herit. Ger. Ait. Hort. Kew. vol. 2. p. 437.*

GERANIUM *dissectum* pedunculis bifloris, foliis quinquepartito-trifidis, petalis emarginatis, longitudine calycis, arillis villosis. *Linn. Syst. Veg. p. 618. Spec. plant. p. 956. Flor. Succ. 622. Scopoli Fl. Carn. ed. 2. n. 848. Hudson Fl. Angl. p. 304. Lightfoot Fl. Scot. 371.*

GERANIUM caule erecto, foliis quinquelobis, lobis trifidis acutis. *Hall. Hist. 937.*

GERANIUM foliis imis usque ad pedunculum divisis. *Vaill. Paris. tab. 15. f. 2.*

GERANIUM malacoides f. columbinum alterum. *Parkinson 706. Columbinum majus dissectis foliis. Ger. em. 938. Raii Syn. 359. Dove's-foot Crane's-bill, with jagged leaves.*

RADIX annua, teres, subfibrosa, fusca.

CAULES plures, subpedales, patentes, teretiusculi, pallide virides, hinc rubentes, pilis crebris, brevibus, albis, deorsum spectantibus, obfiti, nodosi, ramosi, ramis alternis, divaricato-patulis.

FOLIA opposita, longe petiolata, quinquepartita, lacinis tri-sexfidis, distantibus, linearibus, inæqualibus, acutiusculis, venosis, utrinque pilis sursum spectantibus instructis, margine apiceque rubris, sinibus obtusis. Laciniae foliorum radicalium magis approximatae et obtusiores, petiolis divaricato-patulis, compressiusculis, uti caulis pilosis.

STIPULÆ bilobæ, basi lata, albida, lobis femicordatis, acuminatis, rubris, nitentibus, linea dorsali albida, margineque ciliatis.

FLORES parvi, purpureo-rubri.

PEDUNCULI biflori, foliis breviores.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-oblongis, trinerviis, aristatis, pilis glandulosis obfitis, fig. 1.

COROLLA calyce paulo brevior. PETALA quinque, oblongo-obcordata, emarginata, fig. 2.

NECTARIUM: GLANDULÆ quinque virides, cum petalis alternantes, fig. 3.

STAMINA: FILAMENTA decem, germen cingentia. ANTHERÆ subovatae, caeruleae, fig. 4.

PISTILLUM: GERMEN pentagonum, rostratum, pilis glandulosis vestitum. STYLUS cylindricus, persistens. STIGMA quinquefidum, rufescens, fig. 5.

SEMINA arillata. ARILLUS villosus, fig. 6.

ROOT annual, round, somewhat fibrous, brown.

STALKS many, about a foot long, spreading, roundish, of a pale green, here and there reddish, beset with a number of white, short hairs, pointing downwards; jointed, branched; the branches alternate, divaricated, spreading.

LEAVES opposite, on long footstalks, deeply divided into five segments, which are again divided into from three to six smaller ones, distant, linear, unequal, somewhat pointed, veiny, on both sides beset with hairs pointing upwards, their edge and tips red, the sinusses obtuse. The segments of the radical leaves approach nearer to each other, and are more obtuse, footstalks spreading, a little flattened, hairy like the stalk.

STIPULÆ composed of two lobes, with a broad white base, the lobes femicordate, acuminate, red, shining, having a whitish line on the back, which together with the margin is edged with hairs.

FLOWERS small, of a purplish red colour.

PEDUNCLES two-flower'd, shorter than the leaves.

CALYX: a PERIANTHIUM with five, ovato-oblong, three-rib'd, awned leaves, beset with glandulous hairs, fig. 1.

COROLLA a little shorter than the calyx. PETALS five, oblongo-obcordate, emarginated, fig. 2.

NECTARY: five green glandules, placed alternately with the petals, fig. 3.

STAMINA: ten FILAMENTS surrounding the germen. ANTHERÆ nearly ovate, blue, fig. 4.

PISTILLUM five-corner'd, beaked, beset with glandulous hairs. STYLE cylindrical permanent. STIGMA quinquefid, reddish, fig. 5.

SEEDS covered with a villous ARILLUS, fig. 6.

We have figured this species in the state we usually find it among the herbage, on the borders of meadows and pastures; a situation which with us it very much affects; of course it is more drawn up than when it grows singly, which it frequently does by road sides, and in fallow fields.

It flowers in May and June.

It varies greatly in size, and we have seen it with white and flesh coloured blossoms.

It can scarcely be mistaken for any of the other British species; we may remark, however, that it is not only distinguished by its finely divided leaves, but that its blossoms (usually of a bright colour) being furnished with very short footstalks, appear fitting as it were among the leaves; the petals also are usually shorter than the calyx by the awns of the latter, which are unusually long; the calyx, but more particularly the style, which becomes the rostrum, is thickly covered with viscid hairs; the hairs on the stalk afford likewise a good distinction, as they do not spread horizontally as in many of the other species, but obviously point downward, which is accurately noticed in Monf. VAILLANT's figure.







Geranium parviflorum

Syl. T. Edwards del. et Sculp.

GERANIUM PARVIFLORUM. SMALL-FLOWERED CRANE'S BILL.

GERANIUM. *Linn. Gen. Pl.* MONADELPHIA DECANDRIA.

Monogyna. Stigmata 5. Fructus rostratus, pentacoccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *parviflorum* caule subpubescente, floribus pentandris, petalis emarginatis, arillis lævibus pilis appressis vestitis.

GERANIUM *pusillum* pedunculis bifloris, petalis bifidis, caule depresso, foliis reniformibus palmatis linearibus acutis. *Linn. Syst. Veg. p. 618. Spec. Plant. p. 957. Mantiss. 435. Burm. Geran. 23.*

GERANIUM *pusillum* caule herbaceo ramoso, foliis subrotundo-lobatis, lobis trifidis, floribus minimis pentandris cœruleis. *Cavanilles Diss. p. 202. tab. 83. f. 1.*

GERANIUM foliis hirsutis, semiseptilobis, lobis semitrilobis, obtusis. *Hall. Hist. 910.*

GERANIUM *malvæfolium.* *Scopoli Fl. Carniol. ed. 2. n. 847.*

GERANIUM columbinum majus, flore minore cœruleo. *Raii Hist. Plant. p. 1059. Synops. p. 358. The greater blue-flowered Dovesfoot-Cranesbill. Vaill. Paris. tab. 15. f. 1.*

RADIX annua, teres, fibrosa, rubescens.

CAULES diffusi, subpedales, teretes, pallide virides aut subrubentes, vix pubescentes, ramosi.

FOLIA subrotunda, septemfida, laciniis patentibus, trifidis, obtusis, quibusdam profundius partitis, sinibus acutiuseculis; venosa, villosa, mollia, pallide viridia; radicalia longissime petiolata; caulina opposita, magnitudine inæqualia, longitudine pedunculis subæqualia, laciniis acutioribus.

STIPULÆ lanceolatae, basi latae, rubrae, nitentes, laciniis acutis, ciliatis.

FLORES minuti, purpureo-cœrulei.

PEDUNCULI subunciales, axillares, solitarii, biflori.

BRACTEÆ seu Involucra stipulis similia, modo breviora.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, acutis, sursum pilosis, striatis, albo marginatis; duobus exterioribus latioribus, fig. 1.

COROLLA calyce paulo major, campanulato-hians, petalis 5 obcordatis, emarginatis, fig. 2.

NECTARIUM: GLANDULÆ 5 virides, cum petalis alternantes, fig. 3. auct.

STAMINA: FILAMENTA decem germen cingentia, quorum quinque longiora, fertilia, quinque alterna breviora, sterilia, fig. 4, 5. ANTHERÆ quinque, subovatae, cœruleae, fig. 6.

PISTILLUM uti in affinibus, fig. 7.

SEMINA solitaria, reniformia, glabra, arillata, rufa. ARILLI caudati, pallide fusci, læves, pilis albis, longitudinaliter adpressis, obsoleti, fig. 8. auct. fig. 9.

ROOT annual, round, fibrous, reddish.

STALKS spreading, about a foot long, pale green, or sometimes reddish, very slightly downy, branched.

LEAVES roundish, divided into seven lobes, the lobes trifid, obtuse, some of them more deeply divided, the sinuses rather acute; veiny, villous, soft, pale green; the radical ones on very long footstalks; the stalk-leaves opposite, of an unequal size, nearly as long as the peduncles, their lobes more acute.

STIPULÆ lanceolate, broad at bottom, red, shining, segments sharp, edged with hairs.

FLOWERS very small, of a purplish blue colour.

PEDUNCLES from the axilla, about an inch long, two-flowered.

BRACTEÆ or Involucra like the stipulæ, but smaller.

CALYX: a PERIANTHIUM of five leaves, which are ovate, acute, covered with hairs which point upwards, striated, with a white margin, the two outer ones wider than the rest, fig. 1.

COROLLA a little larger than the calyx, bell-shaped and open, consisting of five obcordate, emarginated petals, fig. 2.

NECTARY: five green GLANDULES, placed alternately with the petals, fig. 3. magnified.

STAMINA: ten FILAMENTS surrounding the germen, five of which are longer and fertile, the other five shorter and sterile, fig. 4, 5. The five ANTHERÆ are nearly ovate, and blue, fig. 6.

PISTILLUM as in the other, fig. 7.

SEEDS solitary, kidney-shaped, smooth, reddish, covered with an arillus. The ARILLUS pale brown, smooth, with white longitudinal hairs pressed closely to it, fig. 8. magnified at fig. 9.

While some Botanists have confounded this species with the *molle* already figured in this work, others have mistaken it for the *rotundifolium*, from both of which it is specifically different: RAY and VAILLANT, among the older Botanists, appear to have had a perfectly clear idea of it, as is evident from the description of the one and the figure of the other; in the third edition of RAY's *Synopsis*, DILLENIUS has described and figured a plant which he calls *Geranium columbinum humile flore cœruleo minimo*; this plant was first adopted by LINNÆUS in his *Spec. Plantar.* under the name of *pusillum*, as appears from his referring to this very figure, a name applicable enough to DILLENIUS's plant as figured by him, but not to RAY's and VAILLANT's, which is the one here intended. Whether DILLENIUS's plant be a stunted variety of ours, or a distinct species, we shall not take upon us at present to determine; if the former, his figure, like that of his *Cerastium semidecandrum*, has contributed greatly to mislead; if the latter, the name of *pusillum* would appear to be a very proper one, and may at any time be made use of.

Notwithstanding there are strong reasons for supposing, from observations made in the latter works of LINNÆUS, that our plant is his *pusillum*, we have thought a name so very inapplicable ought not to remain as a stumbling-block, and have therefore substituted *parviflorum*, as coinciding with RAY's description.

Having already described this plant minutely, we shall only mention a few of the striking characters in which it differs from the *molle*; in what respect it varies from *rotundifolium*, will be particularly specified when we figure that plant.

At first sight it differs from the *molle*, in having its leaves more divided, of a paler and more yellow colour, its blossoms much smaller, of a bluer and less brilliant hue; more closely examined, the stalks are scarce perceptibly hairy, or but slightly pubescent, the leaves in general grow opposite, frequently not so towards the top of the stalks, and are more open behind; the stamina bearing antheræ are never more than five, and the arillus, or coat of the seed, instead of being transversely wrinkled, as we have figured it in the *molle*, is comparatively smooth: for this latter distinction, which is a very essential one, and indeed, I may say, for the discovery of the plant, I am indebted to the superior discernment of my much-esteemed and ingenious friend Mr. DAVAL, of Orbe in Switzerland.

On the West side of London, particularly in the neglected gardens, and fallow-fields about Little-Chelsea, where the soil is light, this species is quite a weed; on the Eastern side, at least near the metropolis, it is more rarely found: in many parts of England it grows equally common with the *molle*, than which it usually forms a larger tuft, and sometimes varies with white flowers.

It blossoms in June and July.







Geranium robertianum.

GERANIUM ROBERTIANUM. STRONG-SCENTED CRANES-BILL, OR HERB ROBERT.

GERANIUM *Linnaei Gen. Pl.* MONADELPHIA DECANDRIA.

Stigmata quinque. *Fructus* rostratus, pentacoccus.

Raii Syn. 335. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *robertianum* pedunculis bifloris, calycibus pilosis decemangulatis. *Linnaei Syst. Vegetab.* p. 515. *Fl. Suecic.* 241. n. 619.

GERANIUM foliis duplicato pinnatis, pinnis ultimis confluentibus, calycibus striatis, hirsutis. *Huller hist.* n. 943.

GERANIUM *robertianum.* *Scopoli Fl. Carniol.* n. 845. *Hudson Fl. Angl.* p. 264.

GERANIUM *robertianum* primum. *Baubin. Pin.* 319.

GERANIUM *robertianum.* *Gerard. emac.* 939.

GERANIUM *robertianum* vulgare. *Parkinson* 710. *Raii Syn.* p. 358.

RADIX annua, fusca, fibris ramosis prælongis instructa.

CAULES plures, diffusi, ramosi, sanguinei ut ut tota planta haud infrequenter, geniculis tumidis, pilosi, præsertim in junioribus plantis.

FOLIA opposita, pilosa, præcipue in umbrosis, unumquodque folium e tribus foliolis pinnatifidis basi confluentibus componitur, foliolo medio longius pedicellato, laciniis spinula rubra terminatis.

STIPULÆ ad singulum geniculum quatuor, utrinque binæ.

PEDUNCULI biflori.

CALYX: PERIANTHIUM decemangulatum, persistens, foliolis ovato-lanceolatis, nervosis, hirsutis, mucronatis, *fig.* 1, 2.

COROLLA: PETALA quinque rosea, patentia, æqualia, lamina subcordata, unguis linearis, medio prominulo fulcato in tres nervos albidos divaricante. *fig.* 3.

STAMINA: FILAMENTA decem fertilia, subulata, plana, alba, basi cohærentia; ANTHERÆ purpurascens, polline flavo repletæ, *fig.* 4, auct 5.

PISTILLUM: GERMEN quinquangulare; STYLUS subulatus, villosus; STIGMATA quinque, rubra, paululum reflexa, *fig.* 6.

SEMINA quinque Arillata, lævia, ovata, fusca ad unum latus compressa, *fig.* 9; ARILLUS rugosus, *fig.* 7, 8.

ROOT annual, brown, furnished with long branched fibres.

STALKS several, spreading, branched, of a blood-red colour, as is frequently the whole plant, (the joints tumid,) hairy, particularly in the young plants.

LEAVES opposite, hairy especially when growing in the shade, each composed of three pinnatifid leaves, uniting at the base, the middle leaf standing on the longest foot-stalk, the laciniæ or jags of the leaf terminated by a small red spine.

STIPULÆ four at each joint, two on each side of it.

PEDUNCLES biflorous.

CALYX: a PERIANTHIUM having ten angles, and continuing, the leaves ovato-lanceolate, nervous, hairy, terminating in a point, *fig.* 1, 2.

COROLLA: five rose-coloured PETALS, spreading and equal, the lamina somewhat heart-shaped, the claw linear, the middle part of it prominent, grooved, and spreading into three whitish nerves.

STAMINA: ten fertile FILAMENTS, tapering, flat, white, connected at bottom; ANTHERÆ purplish, filled with a yellow Pollen, *fig.* 4, magnified, *fig.* 5.

PISTILLUM: GERMEN having five angles; STYLE tapering, villous; STIGMATA five, red, a little turned back, *fig.* 6.

SEEDS five, contained within an Arillus, smooth, oval, brown, flattened on one side, *fig.* 9; the ARILLUS wrinkled, *fig.* 7, 8.

Although our English *Geraniums* cannot boast that grandeur and variety of splendid colours so conspicuous in many of the foreign ones, yet several of them are sufficiently beautiful to be entitled to a place in the gardens of the curious, particularly the *Bloody Cranes-bill*, (*Geranium Sanguineum*;) the *Crowfoot Cranes-bill*, (*Geranium Pratense*;) the *Perennial Doves-foot Cranes-bill*, (*Geranium Perenne of Hudson*;) and the *Herb Robert* which we have now described: the latter of these grows naturally in woods, but more particularly under the hedges which surround woods; it likewise is frequently found in old hollow trees, and not uncommonly on the roofs of houses not much exposed to the sun: it is an annual plant; the seeds sow themselves in Autumn, soon after the young plants come up; flower the ensuing spring, and continue to blossom the whole Summer long, if the plant grows in the shade: towards the latter end of the year, both stalks and leaves become of a deep red or blood colour.

The whole plant has a disagreeable smell when bruised, by which it will be distinguished from our other species. It appears to grow all over Europe, and as a proof of its being still more universal, LINNÆUS mentions its growing in *Arabia felix*.

A variety with a white flower now and then occurs.

If credit may be given to writers on the *Materia Medica*, it is a plant of considerable efficacy in medicine, particularly as an Astringent, hence it is recommended in all kinds of Hemorrhages; and those who have the management of cattle, are said to give them an infusion of this plant when they make bloody urine.—Has not this practice originated from the doctrine of signatures? It is also celebrated as a vulnerary in scrophulous, cancerous and putrid Ulcers, to which either the juice is applied, or the parts fomented with a decoction of the herb; as likewise in Contusions, dissolving the extravasated blood when applied in the form of a Cataplasm; and lastly it is said to be exhibited with good success in the Stone and Gravel.—How far it merits these encomiums future experiments must determine.

The herb bruised and applied to places infested with Bugs, is said by LINNÆUS to drive them away.







Malva sylvestris

MALVA SYLVESTRIS. COMMON MALLOW.

MALVA *Linnaei* Gen. Pl. MONADELPHIA POLYANDRIA.

Cal. duplex: exterior triphyllus. Arilli plurimi monospermi.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

MALVA *sylvestris* caule erecto herbaceo, foliis septemlobatis acutis, pedunculis petiolisque pilosis. *Linnaei* Syst. Vegetab. p. 520.

MALVA caule erecto; foliis lobatis: lobis ferratis, quinis et septenis. *Haller hist. n. 1069.*

MALVA *sylvestris*. *Scopoli Fl. Carniol. n. 859.*

MALVA *sylvestris* folio finuato, *C. Baubin. pin. 314.*

MALVA vulgaris *Parkinson.*

MALVA *sylvestris* *Gerard. Raii Syn. p. 269, Common Mallow. Hudson Fl. Angl. p. 268.*

RADIX perennis, albida, crassitie digiti, in terram alte descendens, fibris paucis majusculis instructa, sapore dulci et viscido prædita.

CAULIS plerumque erectus, pedalis ad tripedalem, teres, pilosus, ramosus.

FOLIA petiolis prælongis hirsutis insidentia, quinque aut septemlobata, ad basin maculâ purpurea sæpe notata, subplicata, crenata, superne lævia, subtus hirsutula.

FLORES ampli, purpurei, axillares, subumbellati, venis saturationibus picti.

STIPULÆ duæ ad basin cujusvis petioli.

CALYX: PERIANTHIUM duplex, persistens, hirsutum, exterius triphyllum, foliolis lanceolatis, fig. 1; interius semiquinquefidum, majus, laciniis ovato-acutis, fig. 2.

COROLLA: PETALA quinque, obcordata, præmorfa, basi coalita, plana, fig. 3.

STAMINA: FILAMENTA plurima in tubum purpurascens coalita, fig. 5, superne laxa, reflexa: ANTHERÆ reniformes, albidæ, fig. 6, auct.

PISTILLUM: GERMEN orbiculatum: STYLUS cylindraceus, brevis: STIGMATA plurima, setacea, rubicunda, longitudine Styli, fig. 7, 8, 9.

SEMINA plurima reniformia Arillo introrsum dehiscens te tecta, fig. 10, 11.

ROOT perennial and whitish, the thickness of ones finger, striking deep into the earth, thinly furnished with large fibres, and having a sweetish viscid taste.

STALK generally upright, from one to three feet high, round, hairy and branched.

LEAVES standing on long hairy foot-stalks, having five or seven lobes, often marked at bottom with a purple spot, somewhat folded, crenated or notched at the edges, smooth above and slightly hairy beneath.

FLOWERS large, purple, growing in a kind of umbell in the bosoms of the leaves, painted with deeper veins of the same colour.

STIPULÆ two at the bottom of each foot-stalk of the leaf.

CALYX: a double PERIANTHIUM continuing, and hairy; the outer one composed of three leaves, which are narrow and pointed, fig. 1; the inner one larger and divided into five segments, which are broader and pointed, fig. 2.

COROLLA: five PETALS heart-shaped, a piece of the apex as if bitten out, uniting at bottom, and flat, fig. 3.

STAMINA: FILAMENTS numerous, uniting into a purplish tube, fig. 5, above unconnected and turning back: ANTHERÆ kidney-shaped, and whitish, fig. 6, magnified.

PISTILLUM: GERMEN orbicular: STYLE cylindrical, and short: STIGMATA numerous, thread-shaped, of a red colour, the length of the Styles, fig. 7, 8, 9.

SEEDS numerous, kidney-shaped, covered with an Arillus which opens inwardly, fig. 10, 11.

EVERY part of this plant, but more particularly the root, contains within it a juice somewhat mucilaginous, hence it has been ranked by writers on the *Materia Medica* among the emollients, and considered as serviceable in all cases where emollients are proper: but it has more particularly been used in diseases of the urinary passages, where the parts have been either injured by calculous concretions, or inflamed from other causes; as in the stone, gravel, bloody urine, strangury, gonorrhæa, &c. In cases of cough, hoarseness, roughness of the fauces, &c. it has also been recommended. Its use however has been much superseded by the *Marshmallow*, which possesses all its valuable qualities in a superior degree. The method of using it is by making a decoction of the leaves or root: or it may be made into a syrup in the manner of *Marshmallows*. In fomentations and clysters the leaves are also not unfrequently used.

Mallows were formerly eaten as food by the *Romans*; not the species here figured however; but according to *HALLER*, the *Malva rotundifolia italica flore amplo* of *TOURNEFORT* was used for this purpose. This author also informs us, that a tree of the *Mallow* kind is in like use with the *Egyptians*; and that the *Chinese* mix dried *Mallow* leaves with their food.

Cattle do not appear to be fond of it; and as it is a strong growing plant, it often does much harm in good rich ground: the root however, though perennial, is not of the creeping kind, and consequently is eradicated without much difficulty. The best instrument will be found to be what is called a docking-iron, of which we shall give an account in describing some one of the *Docks*; and the best time for taking them up is late in the Autumn, when the herbage being eat down pretty close, the leaves of the *Mallow* are easily discerned, and the herbage suffers little from the operation.

The *Mallow* flowers from June to the end of Summer. The Antheræ before the opening of the flower, while they are yet entire, afford a very pleasing spectacle, and are figured by *GREW*, in a magnified state, in his *Anatomy of Plants*.







Malva rotundifolia

W. H. H. & J. S.

MALVA ROTUNDIFOLIA. DWARF MALLOW.

MALVA *Linnaei Gen. Pl.* MONADELPHIA POLYANDRIA.

Cal. duplex: exterior triphyllus. *Arilli* plurimi, monospermi.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

MALVA *rotundifolia* caule prostrato, foliis cordato-orbiculatis obsolete quinquelobis, pedunculis fructiferis declinatis. *Lin. Syst. Vegetab.* p. 520.

MALVA caule repente, foliis cordato orbicularibus, obsolete quinquelobis. *Haller hist.* n. 1070.

MALVA *rotundifolia.* *Scopoli Fl. Carn.* n. 858.

MALVA *fylvestris folio rotundo.* *B. pin.* 314.

MALVA *fylvestris pumila.* *Ger. em.* 930.

MALVA *fylvestris minor.* *Park.* 299. *Raii syn.* 251. Small wild Mallow or Dwarf Mallow.

Hudson. Fl. Angl. ed. 2. p. 307.

Lightfoot. Flor. Scot. p. 375.

RADIX annua, in terram alte descendens, albida.

CAULES plures ex una radice, prostrati, dodrantales, etiam pedales et ultra, teretes, pubescentes, extus purpurascens.

FOLIA alterna, petiolata, utrinque minutim pubescentia, scabriuscula, subrotundo reniformia, quinque vel septemloba; lobis rotundatis, margine ferrata, subtus subseptemnervia, extrema sensim majora.

PETIOLI teretes, elongati, pubescenti-scabri, supra sulcati.

STIPULÆ duæ, oppositæ, parviusculæ, lanceolatæ, acutæ, ciliatæ, pubescentes.

FLORES plerumque gemini, pedunculati, axillares, pedunculis petiolis brevioribus, filiformibus, teretibus, pubescentibus, sæpius inæqualibus.

CALYX: PERIANTHIUM duplex, exterius triphyllum; foliolis lineari subulatis, obtusis; interius campanulatum, pubescenti scabrum, quinquefidum; laciniis ovato acutis, erectis, carinatis, margine ferratis, subundulatis. *fig. 1.*

COROLLA alba, venis rubellis picta, PETALA quinque, lineari cuneiformia, obtusa, emarginata, calyce paulo longiora, erecta subsessilia. *fig. 2.*

STAMINA: FILAMENTA plurima, monadelpha, columna cylindrica, glabra, corolla breviora, superne breviter libera.

ANTHERÆ parvæ, subrotundæ, echinatæ, undique nutantes. *fig. 3.*

PISTILLUM: GERMEN orbiculatum, depressum, infra receptaculum corollæ; STYLI plures, subulati, erecti, vix pubescentes, longitudine staminum; STIGMATA simplicia. *fig. 4.*

SEMINA ut in fylvestri, at minora. *fig. 5.*

ROOT annual, striking deep into the earth, of a whitish colour.

STALKS several from one root, laying prostrate on the ground, from nine to twelve inches in length or more, round, downy, and most commonly purplish.

LEAVES alternate, standing on footstalks, covered on both sides with a fine down, slightly rough, of a roundish, kidney-shaped form, usually divided into five or seven roundish lobes, serrated at the edge, having generally on the under side seven ribs, those farthest from the root gradually largest.

LEAF-STALKS round, long, downy, with a slight roughness, grooved on the upper side.

STIPULÆ two, opposite, smallish, lanceolate, pointed, edged with hairs and downy.

FLOWERS generally growing in pairs, connected to flower stalks, which spring from the axæ of the leaves, and which are shorter than the leaf-stalks, thread shaped, round, downy, and for the most part unequal.

CALYX: a double PERIANTHIUM, the outer one composed of three linear tapering leaves, bluntish at the point; the inner one bell-shaped, downy, with a slight roughness, divided into five segments, of an oval pointed shape, upright, keel'd, the edge serrated and slightly waved. *fig. 1.*

COROLLA white, striped with reddish veins, PETALS five, of a narrow wedge shape, blunt, notched at the extremity, a little longer than the calyx, upright, nearly sessile. *fig. 2.*

STAMINA: FILAMENTS numerous, united into one body, the column cylindrical, smooth, shorter than the corolla, at top short and loose.

ANTHERÆ small, roundish, prickly, hanging down all around. *fig. 3.*

PISTILLUM: GERMEN orbicular, flatten'd, placed below the receptacle of the corolla; STYLES numerous, tapering, upright, scarcely downy, the length of the stamina; STIGMATA simple. *fig. 4.*

SEEDS as in the fylvestris, but smaller. *fig. 5.*

We meet with this species of Mallow on dry Banks, also under Pales and Walls in great plenty, it is obviously distinguished from the common mallow by having a procumbent stalk, and small white flowers slightly tinged with red.

It continues to blow from June to September.

HALLER and SCOPOLI describes the stalk as creeping, our plant certainly does not creep.





Holva moschata.

MALVA MOSCHATA. MUSK MALLOW.

MALVA *Lin. Gen. Pl.* MONADELPHIA POLYANDRIA.

Cal. duplex: exterior triphyllus. *Arilli* plurimi, monospermi.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

MALVA *moschata* caule erecto, foliis radicalibus reniformibus incis; caulinis quinquepartitis pinnato-multifidis. *Lin. Syst. Vegetab.* p. 523. *Spec. Pl.* p. 971. *Fl. Suec.* n. 629.

MALVA foliis radicalibus reniformibus, incis, caulinis quinquepartitis pinnatis, pinnis dentatis. *Haller. Hist.* n. 1072.

MALVA *Moschata.* *Scopoli Fl. Carn.* n. 861.

MALVA montana five *Alcea rotundifolia laciniata.* *Col. Ecphr.* 1. p. 148. t. 147.

ALCEA folio rotundo laciniato. *Bauh. Pin.* 316.

ALCEA tenuifolia crispa. I. B. II. *App.* 1067. *Raii Syn.* p. 253. *Hudson. Fl. Angl. ed. 2.* p. 308. *Lightfoot Fl. Scot.* p. 376.

RADIX perennis, albida, sublignosa, difficillime eruta.

CAULIS: ex una radice caules nascuntur plurimi, bipedales, suberecti, ramosi, teretes, fistulosi, hirsuti, punctis purpureis prominulis adpersi, e quibus pili prodeunt.

FOLIA alterna, petiolata, inferiora plerumque sex partita, laciniis pinnatifidis, multifido-laciniatis, hirsutulis, apice subacutis, superiora brevius petiolata, in pauciores et tenuiores lacinias divisa.

STIPULÆ utrinque binæ, erectæ, lanceolatæ, hirsutæ, marginæ undulatæ.

FLORES magni, speciosi, carnei.

PEDUNCULI unciales, teretes, pilosi.

CALYX: PERIANTHIUM duplex, inferius triphyllum, foliolis lanceolatis, superius quinquesidum, ovato-acutum, sæpe laciniatum, punctatum, hirsutum, margine ferrato glandulosum. *fig. 1.*

COROLLA: PETALA quinque, subtriangularia, carnea, venis saturationibus ramosis notata, apice subtruncata, erosa, basi albida, margine utrinque ciliata. *fig. 2.*

STAMINA: FILAMENTA plurima, in tubum cylindraceum, albidum, pilosum coalita, superne libera, reflexa. ANTHERÆ primum reniformes, carneæ, dein purpureæ, demum cærulescentes. POLLEN album, globosum. *fig. 3.*

PISTILLUM: GERMINA plurima, in orbem disposita, flavescencia; STYLI plurimi, ruberrimi, filiformes, ad unum latus pilosi, polline plerumque obducti. STIGMATA simplicia. *fig. 5.*

ROOT perennial, whitish, somewhat woody, and with difficulty pulled up.

STALK: from one root arise several stalks, about two feet high, nearly upright, branched, round, hollow, hirsute, sprinkled with purple prominent points, from which the hairs issue.

LEAVES alternate, standing on foot-stalks, the lower ones generally deeply divided into six segments, which are pinnatifid and sub-divided into many others, slightly hirsute, and pointed at the tips, the upper ones standing on shorter foot-stalks, and divided into fewer and narrower segments.

STIPULÆ two on each side, upright, lanceolate, hirsute, waved on the edge.

FLOWERS large, showy, and flesh-coloured.

FLOWER-STALKS an inch in length, round and hairy.

CALYX: a double PERIANTHIUM, the lowermost composed of three lanceolate leaves, the uppermost divided into five segments, ovate and pointed, often jagged, dotted, hirsute, the edge serrated with small glands. *fig. 1.*

COROLLA: five PETALS, somewhat triangular, flesh-coloured, marked with branched veins of a deeper colour, somewhat truncated with a piece bit out at top, at bottom whitish, with the edge fringed on each side with hairs. *fig. 2.*

STAMINA: FILAMENTS numerous, forming a whitish hairy cylindrical tube, loose at top, and bending back. ANTHERÆ at first kidney-shaped and flesh-coloured, then purple, and lastly blueish. POLLEN white and globular. *fig. 3.*

PISTILLUM: GERMINA numerous, circularly disposed, of a yellowish colour. STYLES numerous, of a bright red colour, thread-shaped, hairy on one side, and generally covered with pollen. STIGMATA simple. *fig. 5.*

The plant here figured has been, and is still, considered by most English Botanists as the *Vervain Mallow*: there is little doubt but it is the plant which RAY considered as the *Alcea vulgaris major* of C. BAUHINE, in which idea he was most probably mistaken, as it accords better with the *Alcea rotundifolia laciniata* of that author. Be this as it may, it certainly is not the *Malva Alcea* of LINNÆUS, which Mr. HUDSON makes a native of this country; and which, he says, grows wild in *Warwickshire*, *Leicestershire*, and *Nottinghamshire*.

At the same time that LINNÆUS has very properly made two distinct species of these plants, he has been rather unfortunate in the parts he has selected for their discrimination.

Taking for granted that Mr. HUDSON has good authority for what he asserts (although the counties he specifies are not particularly mentioned by RAY) it appears, that the *Moschata* is a general, the *Alcea* a local plant; the former I have found in most of the counties I have visited, and Mr. LIGHTFOOT mentions it as growing in Scotland; the latter I have never seen wild, but have occasionally observed it in some of the gardens about London; and last year, having an opportunity of cultivating it in my own, I was agreeably surprized, to find that it afforded many obvious and satisfactory distinctions, the most striking of which I shall enumerate, for the gratification of the English Botanist.

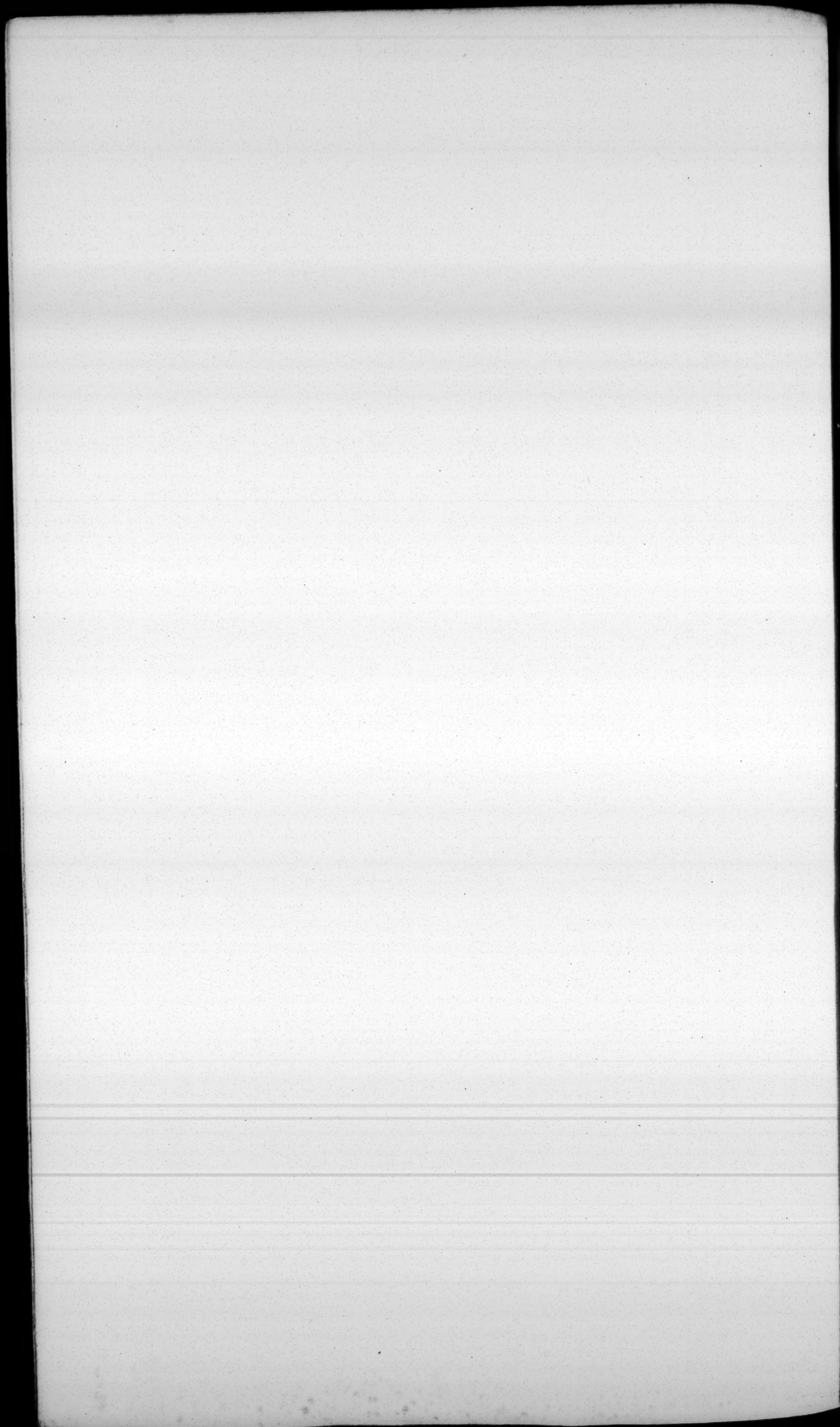
The *Malva Alcea* grew to nearly twice the height of the *Moschata*, whence it agrees with BAUHINE's name of *major*. It was in every respect a stronger plant, and harsher to the touch; the leaves of the stalk were much less jagged; the flowers in both were pretty similar, both in shape, size, and colour; but the calyces differed remarkably. In the *Moschata* the lowermost set of leaves were lanceolate, sometimes almost linear; in the *Alcea* they were ovate; added to this, the calyx of the *Alcea*, near its base, had a large protuberant annulus or ring, which was entirely wanting in the *Moschata*. These characters of the calyx alone will, it is presumed, ever be found sufficient to distinguish the two plants when in flower; besides these, the *Moschata* drawn through the hand has the peculiar property of communicating a strong smell of musk, whence its name.

From this relation those Botanists, resident in the counties above mentioned, will be better enabled to judge whether they have the true *Malva Alcea* or not.

The *Moschata* grows very plentifully in the neighbourhood of *Coomb Wood*, and flowers in *June* and *July*.

No particular virtues or uses are attributed to this species; but its beauty entitles it to a place in the garden.

Bees resort much to it.







Fumaria officinalis

FUMARIA OFFICINALIS. COMMON FUMITORY.

FUMARIA *Linæi. Gen. Pl.* DIADELPHIA HEXANDRIA.

Cal. dihyllus, *Cor.* ringens. *Filamenta* 2, membranacea, singula *Antheris* 3.

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS SEU AD SINGULOS FLORES SINGULIS.

FUMARIA *officinalis* pericarpis monospermis racemosis, caule diffuso. *Linæi. Syst. Vegetab.* p. 430. *Sp. Pl.* p. 984. *Fl. Suecic.* p. 245.

FUMARIA foliis multifidis; lobis subrotunde lanceolatis; fructibus monospermis. *Haller. hist. helv. n.* 346.

FUMARIA *officinalis.* *Scopoli Fl. Carniol.* p. 47.

FUMARIA officinarum et Dioscoridis. *Baubin pin.* 143.

FUMARIA purpurea. *Gerard. emac.* 1088.

FUMARIA vulgaris. *Parkinson.* 287. *Raii Syn.* p. 284, Fumitory.

Hudson Fl. Angl. p. 270.

Lightfoot Fl. Scot. p. 379.

RADIX annua, fibrosa, ex flavo-fusca.

CAULES dodrantes aut cubitales, diffusi, angulosi, geniculis tumidis, ramosi, glabri, teneri, subflexuosi.

FOLIA alterna, petiolata, duplicato-pinnata, glauca, pinnulis trilobatis, mucronatis, lobis extimis bifidis aut trifidis.

FLORES racemosi, purpurei, racemi erecti, multiflori, floribus sparsis, pedunculatis, pedunculis clavatis.

BRACTEÆ lanceolatae, apice purpureæ, singulo pedunculo subjectæ, fig. 1.

CALYX: PERIANTHIUM diphyllum; foliolis oppositis, æqualibus, lateralibus, acutis, denticulatis, deciduis, fig. 2, 3.

COROLLA oblonga, ringens, palato prominente faucem claudente. *Labium superius* apice dilatatum, carinatum, subtus concavum, margine paululum reflexâ, basi obtusâ, incurvatâ. *Labium inferius* longitudine labii superioris et simile quoad apicem, cæteroquin lineare, basi paulo latiore. *Petala lateral*ia sive alæ apice cohærent faucemque tetragonam efformant supra infraque tridentatam, fig. 4, 5, 6, 7.

STAMINA: FILAMENTA duo, alba, membranacea, basi lata, germen amplectentia: ANTHERÆ tres, flavescentes in singulo filamentum, terminales, fig. 8.

PISTILLUM: GERMEN ovatum: STYLUS filiformis longitudine staminum, adscendens: STIGMA compressum, villosum, fig. 9.

PERICARPIUM Silicula unilocularis, subcordata, fig. 10.

SEMEN unicum, subrotundum, fig. 11.

ROOT annual, fibrous, of a yellowish brown colour.

STALKS from nine to seventeen inches in height, spreading, angular, enlarged at the joints, branched, smooth, tender, and somewhat bending.

LEAVES alternate, standing on foot-stalks, twice pinnated, of a blueish green colour, the pinnule or little leaves trilobate, terminating in a short point, the outermost lobes bifid or trifid.

FLOWERS growing in a kind of spike, of a purple colour; spikes upright, supporting many flowers, which are placed, without any regular order, on foot-stalks, thickest at the extremity.

FLORAR-LEAF lanceolate, and purple at top, placed under each flower-stalk, fig. 1.

CALYX: a PERIANTHIUM of two leaves, the leaves opposite, æqual, lateral, pointed, with little teeth at the edges, and deciduous, fig. 2, 3.

COROLLA oblong, ringent, the palate prominent, and closing the mouth: *upper lip* dilated at the tip, keel-shaped, hollow beneath, the margin turning a little upwards; the base obtuse, and curled inward: the *lower lip* the same length as the upper one, and similar as to the top, in other respects linear; the base a little broader: the *lateral Petals*, or wings, cohere at top, and form a four corner'd mouth, in which there are three divisions on the upper and lower part, fig. 4, 5, 6, 7.

STAMINA: two white FILAMENTS, membranous, broad at bottom, and embracing the germen: ANTHERÆ three, of a yellowish colour, sitting on the tops of the filaments, fig. 8.

PISTILLUM: GERMEN oval: STYLE thread-shaped, the length of the stamina, rising upwards: STIGMA compressed, and villous, fig. 9.

SEED-VESELL a small Pod of one cavity, somewhat inversely heart-shaped, fig. 10.

SEED one, of a roundish figure, fig. 11.

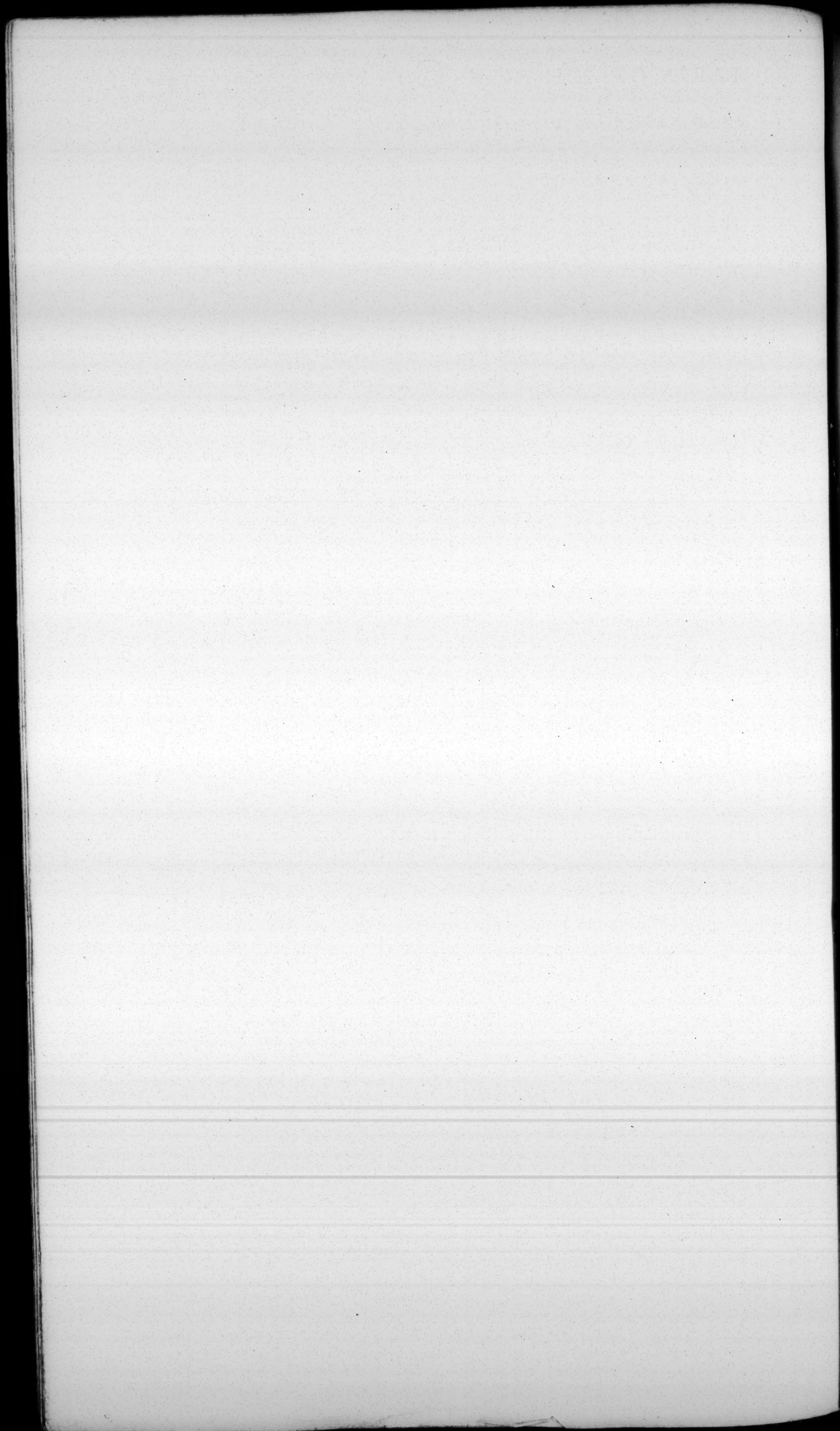
FUMITORY in its flower and fruit, has certainly a considerable affinity with the papilionaceous plants, although that affinity is not very obvious at first sight: and at the same time, some parts of its structure seem altogether peculiar to itself. The posterior part of the corolla terminates in a kind of nectarium, like what we observe in the Violet. But the part in which it differs most from the papilionaceous flowers, is its calyx, which consists of two small lateral leaves, more like stipulæ than a calyx. The filaments, as in papilionaceous flowers, are distinctly divided into two bodies, on the top of each of which, in a very singular manner, are placed three antheræ, each standing on a little footstalk. The seed-vessel in this species, has not much resemblance to those of the papilionaceous tribe; but in some of the other species it has a very considerable one, as in the *Claviculata*. This difference of structure in the seed-vessels, caused RAY to divide the plants of this genus, and place them in different classes: but by LINNÆUS they are classed together with the diadelphous plants.

When this plant grows luxuriantly, and near other plants, the leaves acquire a power of acting as tendrils, and supporting the plant: this is the principal variety to which it is subject.

It grows very commonly in corn-fields, gardens, and on the sides of banks; flowering from April to July.

The juice of it given to two ounces, with whey, gently opens the body, purifies (as it is called) the blood, resists the scurvy, removes eruptions of the skin, and a too great redness of the face, if exercise in the spring be joined with it. The extract, or inspissated juice of it, appears to be the most eligible form, of which one dram loosens the belly; *Haller. hist. helv. p.* 150.

Kine and Sheep eat it; Goats not readily; Horses and Swine not at all.







Fumaria capreolata

FUMARIA CAPREOLATA. RAMPING FUMITORY.

FUMARIA. *Linn. Gen. Pl.* DIADELPHIA HEXANDRIA.

Cal. diphyllus. *Cor.* ringens. *Filamenta* 2-membranacea, singula
Antheris 3.

Raii Syn. Gen. HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS
SEU AD SINGULOS FLORES SINGULIS.

FUMARIA *capreolata* pericarpis monospermis racemosis, foliis scandentibus subcirrhosis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 637. Sp. Pl. ed. 3. p. 985. Lightf. Scot. v. 1. p. 380.*

FUMARIA *officinalis* var. *Hudf. Fl. Angl. ed. 2. p. 309.*

FUMARIA viticulis et capreolis plantis vicinis adhærens. *Baub. Pin. p. 143.*

FUMARIA major scandens flore pallidiore. *Raii Syn. ed. 3. p. 204.* The greater ramping Fumitory.

FUMARIA flore albo. White flowred Fumitorie. *Ger. Herb. p. 927. f. 2.* described with tendrils, but not figured with any.

In the wonderful æconomy of nature, it is found requisite for the well-being of certain plants, that they should grow to a considerable height above the surface of the earth; by far the greater part acquire this height by the strength and firmness of their stems, which are capable of resisting the fury of the elements*; others, less robust, acquire the necessary height, for the most part, in two ways; either the stem instinctively turns round the neighbouring plants, as in the Hop and Bindweed, or they throw out tendrils, which have the faculty of curling round whatever objects they come in contact with, as in the Vine, Cucumber, and many of the leguminous plants:—in the present instance, there is a deviation from both these modes, the stalk does not turn as in the Hop, nor does it throw out tendrils as in the Vine; but the leaves themselves perform the office of tendrils, that is, they curl round whatever objects they touch.

Though the present plant, in the colour and form of its leaves and flowers, bears a considerable resemblance to the common Fumitory, yet its greater disposition to climb did not escape the observation of the older Botanists, who regarded it as a species on that account:—by what particular means it acquired its superior power of ascension, or in what other respects it differed from the common Fumitory, they did not inquire into as they ought, or they would not have spoken of its distinct *viticuli* and *capreoli*; it may be doubted even whether LINNÆUS's term of *subcirrhosis*, together with his description of the leaves in his *Spec. Plant.* (*foliola extrema in cirrhos transeunt*) may not tend to mislead the student; for though the leaves, or rather their foot-stalks, perform the office of tendrils, their form (as far as we have observed) undergoes no alteration.

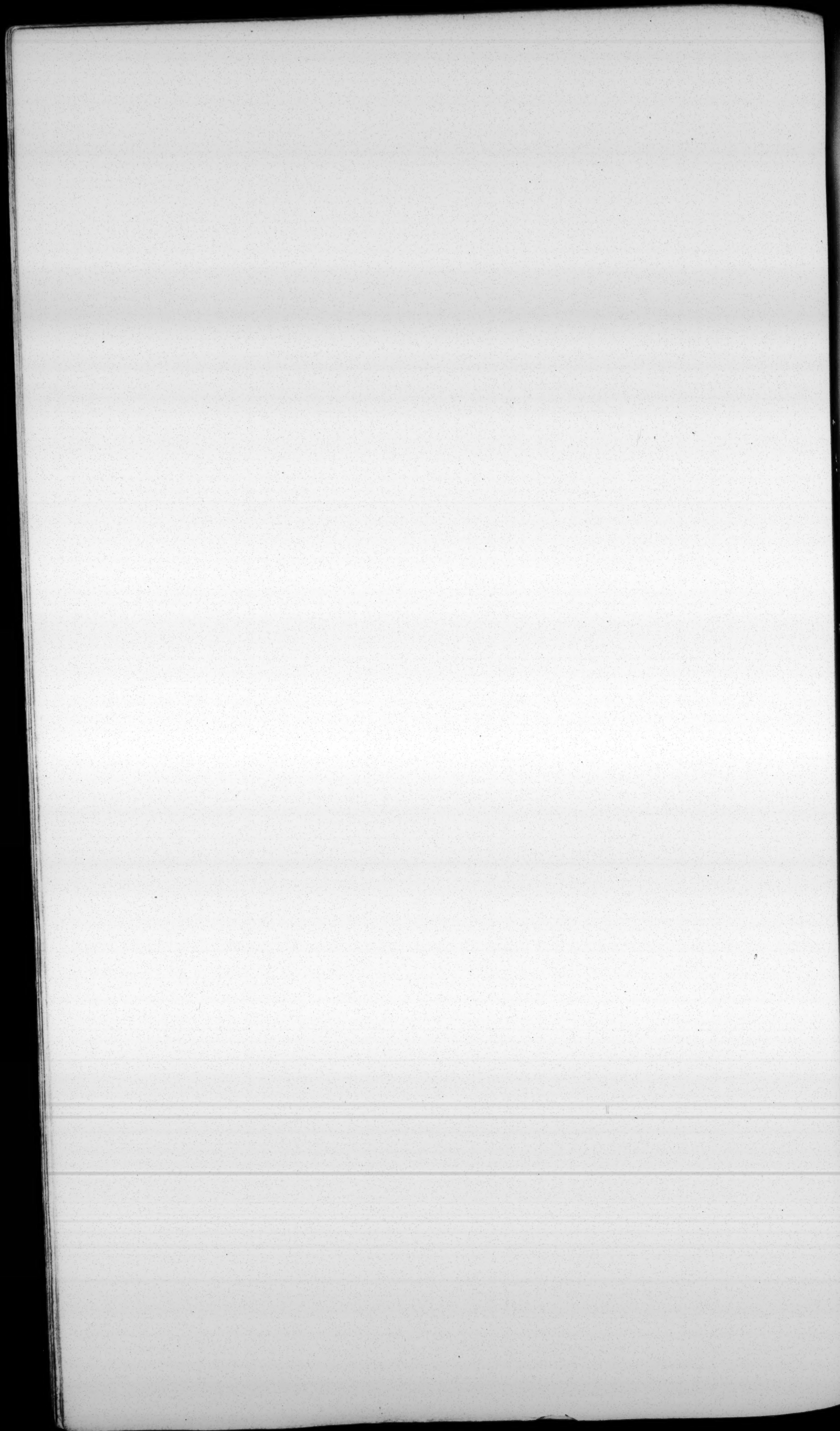
Some modern writers have expressed their doubts, as to this plant's being a species; if it differed only in the particular æconomy of its leaves, we should doubt it also; for we have observed the common Fumitory, when growing luxuriantly, shew a similar tendency in its leaves to lay hold of contiguous objects; and many, we believe, have taken the plant in this luxuriant state, and with this tendency, for the *capreolata*; no wonder they should perceive no difference.

We have long been convinced that the two plants are perfectly distinct; the true *capreolata* is much less common, and a more local plant than the *officinalis*; its foliage has little of the glaucous appearance in it, but inclines more to yellowish-green, and, taking two plants of the same age and of the same degree of luxuriance, it is much broader and has a much greater tendency to perform the office of tendrils, and, in consequence of this greater disposition to climb, the plant will ascend to a much greater height than the *officinalis*, and will frequently surmount a low hedge; the difference in the flowers is equally if not more obvious, and this difference is, perhaps, in no respect more striking, than in the number of the flowers which form the spike; in the *capreolata* they are much fewer than in the *officinalis*, being usually from six to twelve, while in the *officinalis* they are generally twice as numerous; the colour of the flowers exhibits a difference which strikes the eye, perhaps, as soon as any other; in the *officinalis*, the main body of the flower is bright red, in the *capreolata* it is flesh colour; hence the deep red at the extremity of the flowers in the *capreolata* forms a greater contrast in this species than in the other:—to these distinctions, we may add the superior size of the flowers of the *capreolata*, which are at least one third larger; the mouth of the flower in the *officinalis* (taking two flowers of the same age) is more open, that is the tip of the carina adheres more closely to the other parts; in the *capreolata*, this is a good character and constant; in the *officinalis*, the peduncle is inserted more into the middle of the flower; the calyx in the *capreolata* is proportionably broader, and its upper edge rises higher on the flower, *vid. fig. 1, 2*, where a flower of each is represented, that they may be compared together.

We have already observed, that this species is more local than the *officinalis*; it is certainly much more rare in the neighbourhood of London: we remember to have seen it sparingly near Edmonton, and in a few other places; more plentifully about Barnstaple, in Devonshire, and elsewhere.

It flowers from June to September, and produces plenty of seed, which comes up spontaneously, and in such abundance as to make it a kind of weed.

* “ To loftier forms are rougher tasks assign'd,
“ The sheltering oak resists the stormy wind.”







*Spartium
Scoparium.*

SPARTIUM SCOPARIUM. COMMON BROOM.

SPARTIUM *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Stigma longitudinale, supra villosum. *Filamenta* germini adhærentia. *Cal.* deorsum productus.

Raii Syn. ARBORES ET FRUTICES.

SPARTIUM *Scoparium* foliis ternatis folitariisque ramis inermibus angulatis. *Lin. Syst. Vegetab.* p. 644. *Sp. Pl.* p. 996. *Fl. Suec.* n. 633.

SPARTIUM foliis inferioribus ternatis hirsutis, superioribus simplicibus. *Haller hist.* n. 354.

GENISTA angulosa et scoparia. *Bauh. pin.* 395.

GENISTA cum rapo. *Dodon. Pempt.* p. 761. *Ger. emac.* 1311.

GENISTA vulgaris sive scoparia. *Park. Theat.* p. 228.

GENISTA angulosa trifolia. *I. B. I.* 388. *Raii Syn.* p. 474. Common Broom. *Hudson Fl.* *Angl. ed.* 2. p. 310. *Lightfoot Fl. Scot.* p. 382.

Frutex tripedalis ad orgyalem et ultra, ramossissimus, ramis erectis, virgatis, viridibus, angulatis, flexilibus, junioribus pubescentibus	A Shrub from three to six feet high or more, very much branched, the branches upright, twiggy, green, angular, flexible, the young ones downy.
FOLIA sæpius ternata, summis subinde folitariis, foliolis ovatis, acutis, pubescentibus, ciliatis, ciliis mollibus inflexis.	LEAVES most commonly growing by threes, uppermost ones sometimes singly, leaflets ovate, acute, downy, edged with soft hairs bending inwards.
PETIOLI pubescentes, complanati.	LEAF-STALKS downy, flattened.
FLORES lutei, maximi, laxè racemosi.	FLOWERS yellow, very large, growing in loose racemi.
BRACTEÆ quatuor, obovatæ, inæquales, cruciatæ, obtusæ, ad basin pedunculorum.	BRACTEÆ four, inversely ovate, unequal, cross-shaped, obtuse at the base of the flower-stalks.
PEDUNCULI solitarii, sæpius bini, raro terni, teretes, glabri, stipulâ minimâ utrinque instructi.	FLOWER-STALKS single, oftener two, rarely three, round, smooth, furnished on each side with a very minute stipula.
CALYX: PERIANTHIUM monophyllum, parvum, bilabiatum, sæpe purpureum, obsolete denticulatum, labiorum apicibus marcidis fuscis, fig. 1.	CALYX: a PERIANTHIUM of one leaf, small, two-lipped, often purple, faintly toothed, extremities of the lips withered and brown, fig. 1.
COROLLA papilionacea, pentapetala, Vexillum obcordatum, reflexum, maximum, fig. 2. Alæ longitudine carinæ, subovales, breviter petiolatæ, fig. 3. Carina ampla et profunda, obtuse rostrata, fig. 4. dipetala, aut in duas partes facile separabilis, margine carinali villis connexo.	COROLLA papilionaceous, pentapetalous, Standard inversely heart-shaped, reflexed, very large, fig. 2. Wings the length of the keel, somewhat oval, on short footstalks, fig. 3. Keel large and deep, beak blunt, fig. 4. composed of two petals, or at least easily separated into two parts, the edges being connected together at the keel with soft hairs.
STAMINA: FILAMENTA decem, inferne in unum corpus coalita (hinc decandria non diadelphia) affurgentes, inferioribus longioribus; ANTHERÆ oblongæ, crocæ, fig. 5.	STAMINA: ten FILAMENTS, below united into one body (hence of the class decandria rather than diadelphia) rising upwards, the lowermost ones longest; ANTHERÆ oblong, saffron-coloured, fig. 5.
PISTILLUM: GERMEN oblongum, hirsutum; STYLUS subulatus, affurgens, demum spiraliter involutus ad apicem inferne canaliculatus, STIGMA terminale, minimum, capitatum, fig. 6. auct. fig. 7.	PISTILLUM: GERMEN oblong, hirsute; STYLE tapering, rising upward, finally bent spirally, so as to form somewhat more than a circle, near the tip hollowed below; STIGMA terminal, very small, and forming a little head, fig. 6. magnified, fig. 7.
PERICARPIUM: LEGUMEN latum, compressum, nigricans, marginibus pilis mollibus ciliatis, fig. 8.	SEED-VESSEL a broad, flat, blackish Pod, edged with soft hairs, fig. 8.
SEMINA plurima ad 20, minuta, subovata, lutescentia, nitida, fig. 9.	SEEDS numerous to 20, small, somewhat ovate, dingy yellow, glossy, fig. 9.

The common English Broom is one of the most ornamental shrubs we have, especially that variety of it, in which the calyx is purple, and the blossoms strongly tinged with orange; but even in its common state, such is the profusion of blossoms with which its branches are loaded in the summer, such the charming verdure of its twigs in the winter season, that it may be said to vie with any of the foreign ones, and to be equally deserving a place in all ornamental grounds.

It grows naturally in dry, sandy, barren soils, bears transplanting badly, but is most readily raised from seed.

It is not only in an ornamental point of view, that this plant deserves our notice, it claims our attention also as an useful plant in rural œconomy and medicine.

Though not so commonly used for besoms as the common Heath and Birch, it is preferred for many purposes; in the Northern parts of Great-Britain it is made use of for thatching cottages, corn and hay-ricks, also as a substitute for reeds in making fences or screens; and we have been credibly informed, that in some parts of Scotland, where coals are scarce, whole fields are sown with its seeds to form fuel.

Authors mention the flower-buds, just before they become yellow, as proper for pickling, in the manner of capers*; the branches, as capable of tanning leather†, and of being manufactured into coarse cloth‡; the old wood, as furnishing the cabinet-maker with the most beautiful materials for veneering; and the tender branches, to be frequently mixed with hops for brewing§.

* DODON, &c. † HALLER. ‡ Ibid. § LIGHTFOOT, Fl. Scot.

The twigs, when bruised, smell disagreeably; this may, perhaps, be one reason for their being generally rejected by cattle: the plant, however, affords nourishment to a great variety of insects; in particular, to the larvæ of several *Phalænæ* not described by LINNÆUS.

From the roots of this plant springs the Broom Rape, figured in a former number of this work.

" The leaves and stalks of broom have a nauseous bitter taste, which they give out by infusion, both to water and rectified spirit; and which, on gently inspissating the filtered liquors, remains concentrated in the extracts: the watery tincture is of a yellowish green or brownish, the spirituous of a dark green colour. They are accounted laxative, aperient, and diuretic; and in this intention have been often used by the common people in dropsies and other serous disorders. Dr. MEAD relates a case of an hydropic person, who, after the paracentesis had been thrice performed, and sundry purgatives and diuretics had been tried without relief, was perfectly cured, by taking, every morning and evening, half a pint of a decoction of green broom tops, with a spoonful of whole mustard seed: by this medicine, the thirst was abated, the belly loosened, and the urinary discharge increased to the quantity of at least five or six pints a day.

" Infusions of the ashes of the plant in acidulous wines, have likewise been employed in the same intention, and often with good success. The virtue of this medicine does not depend, as some have supposed, on any of the peculiar qualities of the broom remaining in the ashes, but on the alkaline salt and earth, which are the same in the ashes of broom as in those of other vegetables, combined, wholly or in part, with the vinous acid. A solution even of the pure earthy part of vegetable ashes, made in vegetable acids, proves notably purgative and diuretic.

" Of the seeds and flowers, the medicinal qualities are not well known. It is said, that the seeds, in doses of a dram and a half in substance, and five or six drams in decoction or infusion, prove purgative or emetic. Some report that the flowers also operate in the same manner; but LOBEL assures us, from his own observation, that they have been taken in quantity without producing any such effect: and I have known infusions of the flowery tops drank freely in some asthmatic cases, without any other sensible operation than a salutary increase of urine and expectoration. The seeds, slightly roasted, are used in some places as coffee." LEWIS'S *Mater. Med.* p. 318.

A variety of this plant, much more hoary than common, is accidentally met with; the most usual time of its flowering with us, is about the latter end of May or beginning of June.

THOMSON, whose observing eye rarely suffered any of the beauties of nature to escape him, has noticed the flowering of this shrub in the following passage, in which he describes the effect which the genial warmth of the season produces on the various animals:

" While thus the gentle tenants of the shade
" Indulge their purer loves, the rougher world
" Of brutes below rush furious into flame
" And fierce desire. Thro' all his lusty veins
" The bull deep-scorch'd, the raging passion feels;
" Of pasture sick, and negligent of food,
" Scarce seen, he wades among the yellow broom.





OROBUS TUBEROSUS. WOOD PEASE.

OROBUS *Linnaei Gen. Pl.* DIADELPHIA DECANDRIA.

Raii Synop. Gen. 23. HERBÆ FLORE PAPILIONACEO, SEU LEGUMINOSÆ.

OROBUS *tuberosus* foliis pinnatis, lanceolatis; stipulis semifagittatis integerrimis, caule simplici. *Lin. Syst. Vegetab. p. 550. Fl. Suecic. n. 642.*

OROBUS caule simplici; foliis senis ellipticis; radice tuberosa. *Haller. hist. n. 417.*

ASTRAGALUS *fylvaticus*, foliis oblongis glabris. *Baubin. pin. 351. Gerard. emac. 1237.*

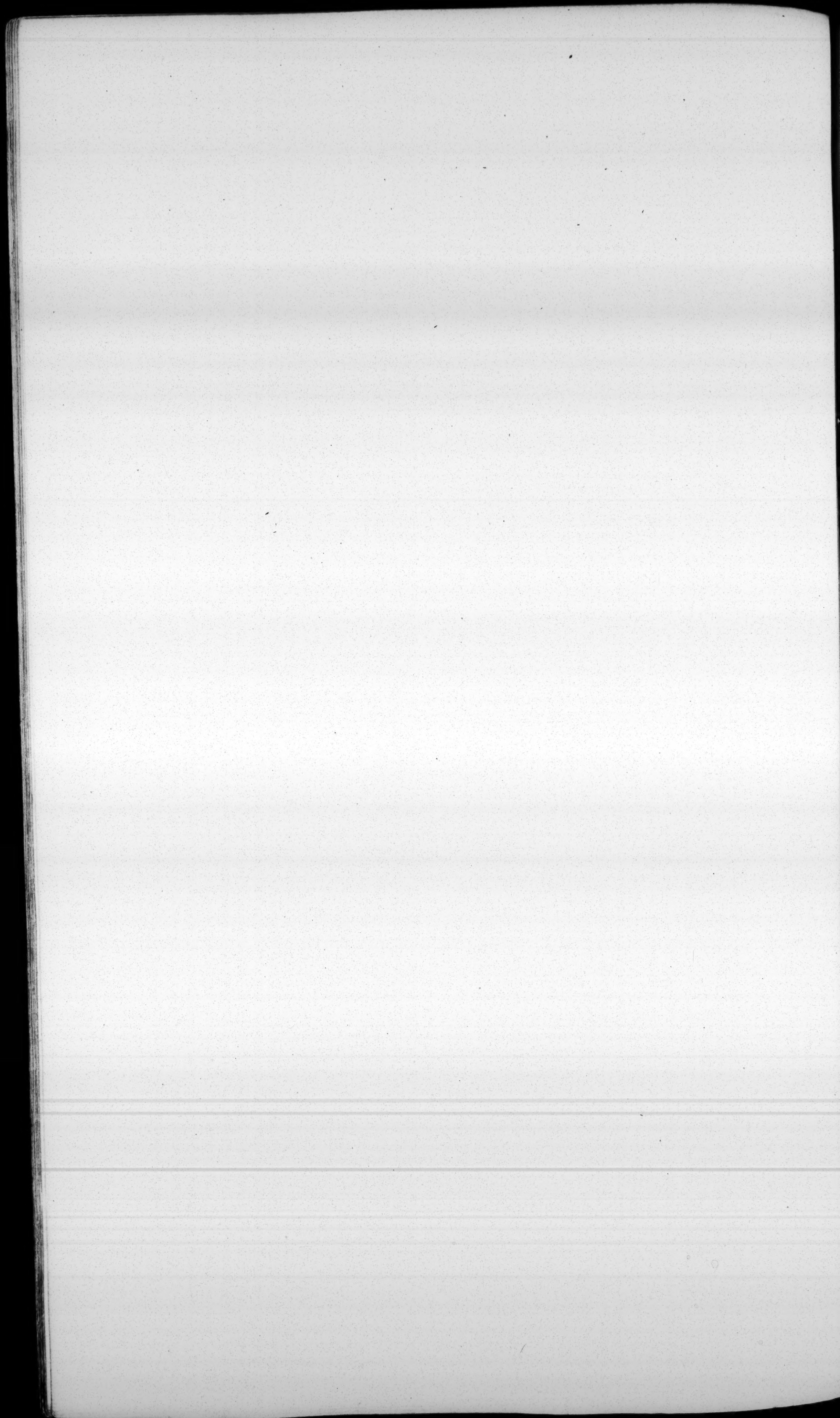
LATHYRUS *fylvestris lignosior.* *Parkinson, 1072. Raii Synop. p. 324.* Wood-Peafe, or Heath-Peafe. *Hudson, Fl. Angl. p. 274. Scopoli. Fl. Carn. n. 883.*

RADIX perennis, tuberosa.	ROOT perennial and tuberous.
CAULIS simplex, erectus, pedalis, alatus, subtortuosus.	STALK simple, upright, about a foot high, winged and somewhat twisted.
FOLIA pinnata, CIRRHUS brevi recto terminata, Pinnarum paria duo, tria, elliptica, mucronata, glabra subtus cærulescentia.	LEAVES pinnated, terminated by a short strait CIRRHUS consisting of two or three pair of Pinnæ which are elliptical, and end in a small sharp point, smooth and underneath blueish.
STIPULÆ semifagittatæ, sæpe integræ, sæpius vero ad basin hamatæ, dente unico aut pluribus.	STIPULÆ semifagittate, frequently entire but more often jagged at bottom, with one or several teeth.
RAMI florigeri, 1, 2, 3, aut plures ex foliorum alis, primum nutantes, FLORES pulchelli, ex rubro purpurei, demum cærulescentes.	BRANCHES which sustain the flowers 1, 2, 3, or more, springing from the bosom of the leaves, at first drooping the FLOWERS beautiful, of a reddish purple colour, becoming blue as they go off.
CALYX PERIANTHIUM monophyllum, tubulatum, purpureum, basi obtusum; ore quinquedentato, denticulis tribus inferioribus acutioribus, duobus superioribus brevioribus, obtuse divis, subaffurgentibus, fig. 1.	CALYX: a PERIANTHIUM of one leaf, tubular, purple, blunt at bottom, the mouth quinquedentate, the three lowermost teeth sharpest, the two uppermost shortest, bluntly divided, and turned a little upwards, fig. 1.
COROLLA Papilionacea: VEXILLUM obcordatum, reflexum, fig. 2. ALÆ conniventes, Carinâ connexæ, Unguis linearis, fig. 5. Lamina obtusa. CARINA, fig. 7, acuminata, affurgens, marginibus cavis ad Alas recipiendas, fig. 9.	COROLLA Papilionaceous: the VEXILLUM heart-shaped, turning back, fig. 2. the WINGS connivent and connected with the Carina, the Claw linear, fig. 5. the Lamina obtuse, fig. 6. the CARINA or Keel acuminate, rising upward, the edges hollow for the reception of the Alæ or Wings, fig. 9.
STAMINA: FILAMENTA diadelpia (simplex et novem fidum) adscendentia, fig. 11, 17. ANTHERÆ flavæ, fig. 12. ad basin filamenti simplicis et superioris, foramina duo observantur, fig. 16.	STAMINA: ten FILAMENTS, nine united into one body below, and one separate at top, fig. 11, 17. rising upward, ANTHERÆ yellow, fig. 12. at the base of the simple and uppermost filament two small holes are conspicuous, fig. 16.
PISTILLUM: GERMEN cylindraceum, compressum, STYLUS filiformis, erectus, lateri interiori prope apicem villosus, fig. 13.	PISTILLUM: GERMEN cylindrical, and flattish, STYLE thread-shaped, interiorly near the tip villous, fig. 13.
PERICARPIUM LEGUMEN teres, longum, primum rubrum, demum nigrum, fig. 14.	SEED-VESSEL, a LEGUMEN round, and long, first red, when ripe black, fig. 14.
SEMINA plura, subrotunda, e luteo-fusca, fig. 15.	SEEDS several, roundish, of a yellowish brown colour, fig. 15.

This elegant species of *Orobus* grows very plentifully in all our Woods about Town; it seems to delight in a strong clayey soil. It produces its blossoms in May and June and the seed is ripe in July. The root is large and tuberous, deeply situated in the Earth and taken up with difficulty; it is not made any particular use of with us, but is considerably esteemed in some parts of Great Britain.

My very worthy and ingenious Friend the Rev. Mr. Lightfoot, of *Unbridge*, has favoured me with the following account of its uses, which he observed in his late tour through Scotland:

“The *Orobus tuberosus* is very common in Scotland, both in the Lowlands, Highlands, and the Hebrides. It is called in the Erse Language *Cor-meille*. The Highlanders dig up the Roots and dry them in their pockets, and chew them like Tobacco or Liquorice Root, to relish their Liquor, and to repel Hunger and Thirst. In *Breadalbane* and *Ross-shire* they sometimes steep them in Water, and make an agreeable fermented Liquor with them, which they esteem to be good for Disorders of the Thorax. It has a sweetish Taste somewhat like Liquorice Roots. Fond as the Highlanders were of this Root they frequently used to change it with me for some Pig-tail Tobacco, their favourite Indulgence.”







LATHYRUS PRATENSIS. MEADOW VETCHLING.

LATHYRUS *Lim. Gen. Pl.* DIADELPHIA DECANDRIA.

Stylus planus, supra villosus, superne lator.
Cal. laciniae superiores 2 breviores.

Raii Syn. Gen. 23 HERBÆ FLORE PAPILIONACEÆ SEU LEGUMINOSÆ.

LATHYRUS *pratensis* pedunculis multifloris, cirrhis diphyllis simplicissimis: foliolis lanceolatis. *Lin. Syst. Vegetab.* p. 552. *Sp. pl.* p. 1033.

LATHYRUS scapis multifloris, foliis lanceolatis, capreolis simplicibus. *Haller. hist.* 436.

LATHYRUS pratensis. *Scopoli Fl. Carniol.* p. 64.

LATHYRUS sylvestris luteus, foliis vicie. *Bauhin. pin.* 344.

LATHYRUS luteus sylvestris dumetorum. *Baub. hist.* 2. p. 304. t. 304.

LATHYRUS sylvestris flore luteo. *Ger. emac.* 1231. *Park.* 1062. *Raii Syn.* p. 320. Tare-everlasting, common yellow bastard Vetchling.

Hudson, Fl. Angl. p. 317. ed. 2. *Lightfoot Fl. Scot.* p. 391. *Oeder. Fl. Dan. ic.* 527.

RADIX perennis, albida, repens.

CAULIS pedalis, etiam tripedalis et ultra, debilis, cirrhis sustentatus, angulatus, subpilosus, ramosus.

FOLIA bina, lanceolata, trinervia, subtus villosula.

PETIOLI trigoni, subpilosi, longitudine stipularum.

STIPULÆ semisagittatae, latitudine foliorum, hamis duobus subinde instructi.

PEDUNCULI tetragoni, longi, suboctoflori.

FLORES lutei, erecti, racemosi, secundi.

PEDICELLI teretes, villosi, longitudine calycis.

CALYX: PERIANTHIUM monophyllum, tubulatum, breve, cylindraceum, subpilosum, quinque-dentatum, dentibus acuminatis, inferioribus longioribus, sursum paulisper curvatis, *fig.* 1.

COROLLA papilionacea, vexillum submarginatum, reflexum, prope basin superne foveis duabus intus prominentibus notatum *fig.* 2; *Ala* duae; apice rotundatae *fig.* 3; *Carina* longitudine alarum. *fig.* 4.

STAMINA: FILAMENTA diadelpa, (simplex et novemfidum, *fig.* 5. 6. assurgentia; ANTHERÆ subrotundae, flavæ.

PISTILLUM: GERMEN viride, compressum, oblongum; STYLUS erectus, superne lator apice acuto; STIGMA a medietate styli ad apicem antice villosum. *fig.* 7. a sculptore male expressum.

PERICARPIUM: Legumen sesquiunciale, compressum, nigricans, continens Semina octo ad duodecim, subrotunda.

ROOT perennial, whitish and creeping.

STALKS a foot high, sometimes even three feet or more, weak, supported by its tendrils, angular, slightly hairy, and branched.

LEAVES growing in pairs, lanceolate, having three ribs, and slightly downy underneath.

LEAF-STALKS three-cornered, somewhat hairy, the length of the stipulae.

STIPULÆ in the shape of an half arrow, the breadth of the leaves, sometimes having two projections behind.

FLOWER-STALKS four cornered, long, supporting about eight flowers.

FLOWERS yellow, upright, growing in a bunch, all one way.

PARTIAL FLOWER-STALKS round, villous, the length of the calyx.

CALYX: a PERIANTHIUM of one leaf, tubular, short, cylindrical, somewhat hairy, furnished with five teeth, which are long and pointed, the lowermost longest, and bent a little upwards.

COROLLA papilionaceous, *Standard* slightly notched, turned back, on the upper side near the base marked with two little cavities which project inwards, *fig.* 2; *Wings* rounded at top *fig.* 3; *Keel* the length of the wings *fig.* 4.

STAMINA: ten FILAMENTS, rising upwards, nine united together, and one forming a separate body; *fig.* 5. 6. ANTHERÆ roundish and yellow.

PISTILLUM: GERMEN green, flattened, oblong; STYLE upright, broadest above with a pointed top; STIGMA from the middle of the style to the top villous on the fore part, *fig.* 7. badly expressed in the engraving.

SEED-VESSEL a *Pod* an inch and an half long, flatten'd, of a blackish colour, containing from eight to twelve roundish Seeds.

THE following observations on this plant by the ingenious author of *Essays relating to Agriculture and rural Affairs*, will not be unacceptable to such of our readers as are fond of Husbandry and rural improvements; before I had seen his remarks, I had often thought it a plant which at least deserved a trial, and might, in particular soils, be cultivated to advantage. I remember once in particular to have seen a piece of stiff soil belonging to Lord Loughborough, at his seat near Mitcham, which produced an excellent crop of pasturage, consisting chiefly of this plant, and the *Festuca pratensis*.

It grows very frequently in pastures and hedges, and flowers in June and July.

“The

“ The common yellow vetchling, *Lathyrus pratensis*, or everlasting-tare, might likewise be on many occasions
“ cultivated with profit by the farmer. It grows with great luxuriance in stiff clayey soils, and continues to yield
“ annually for any length of time, a great weight of forage, which is deemed to be of the very best quality : and
“ as it is equally fit for pasture or for hay, the farmer would have it in his power to apply it to the one or the
“ other of these uses, at any period that might best suit his convenience.—It is likewise attended with this far-
“ ther advantage, that as it continues to grow with equal vigour in the end of summer as in the beginning
“ thereof, it would admit of being pastured upon in the spring, till the middle or even the end of May, should
“ it be necessary ; without endangering the loss of the crop of hay : which cannot possibly be done with rye-grass,
“ or any other plant usually cultivated by the farmer, except clover ; which is equally unfit for early pasture or
“ for hay. This plant would be the more valuable to the farmer that it grows to the greatest perfection on such
“ soils as are altogether unfit for producing sain-foin ; the only plant hitherto cultivated that seems to possess quali-
“ ties approaching to those of this one.—It must, however, be acknowledged, that the difficulty of procuring seeds
“ of this plant in abundance, must be a very great bar to the general cultivation thereof : for although these ripen
“ very well in our climate, yet the quantity that it produces is so inconsiderable, and the difficulty of getting them
“ separated from the pod is so great, as to make it necessary to gather them by the hand ; in which way the
“ quantity obtained must be very trifling. To counterbalance this defect, however, it may be observed, that it is
“ not only an abiding plant, which never leaves the ground where it has been once established ; but that it also
“ increases so fast by its running roots, that a very few plants at first put into a field, would soon spread over the
“ whole and stock it sufficiently. If a small patch of good ground is sowed with the seeds of this plant in
“ rows about a foot distant from one another, and the intervals be kept clear of weeds for that season, the
“ roots will spread so much as to fill up the whole patch next year ; when the stalks may be cut for green fodder
“ or for hay. And if that patch were dug over in the spring following, and the roots taken out with the hand,
“ it would furnish a great quantity of plants, which might be planted in such fields as you meant to have filled
“ with this, at the distance of two or three feet a-part ; which would probably there take root, and quickly
“ overspread the whole field. And as there might always be a sufficient quantity of the roots left to fill again
“ the patch from whence they were taken, it would be ready to furnish a fresh supply the next season, and
“ might thus continue to serve as a nursery for ever afterwards. It appears to me, that this would be the most
“ likely method of propagating this plant with ease ; but I have not as yet had sufficient experience thereof to
“ be able either to tell precisely the expence of it, or to answer positively for the success thereof in all cases.”





Lathyrus Nipolia

LATHYRUS NISSOLIA. CRIMSON LATHYRUS, or GRASS VETCH.

LATHYRUS. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

Stylus planus, supra villosus, superne latior. *Cal.* laciniae superiores
duae breviores.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *Nissolia* pedunculis unifloris, foliis simplicibus, stipulis subulatis. *Linn. Sp. Pl.* v. 2. *ed.* 3.
p. 1029. *Syst. Vegetab.* *ed.* 14. *Murr.* *p.* 662.

LATHYRUS pedunculis unifloris, foliis gramineis, stipulis minimis. *Hall. Hist. n.* 441.

LATHYRUS sylvestris minor. *Bauh. Pin.* 344.

CATANANCHE leguminosa quorundam. *J. B. II.* 309.

VICIA folio gramineo filiqua porrectissima. *Merr. p.*

LATHYRUS angustifolius erectus, folio singulari, sine capreolis Nissoli. *Magn. Hort.* 112. *t.* 112.

NISSOLIA parva flore purpureo. *Buxb. cent.* 3. *p.* 84. *t.* 45. *f.* 1.

ERVUM sylvestre. *Dodon. Pempt.* *p.* 529. *Ger. emac.* Crimson grassie Fetch. *p.* 1249.

ERVUM sylvestre five Catananche. Wild grassie leaved Orobus. *Park. Tb.* *p.* 1079.

RADIX annua, fibrosa.

CAULIS pedalis, et ultra, suberectus, simplex, raro
ramosus, angulatus, glaberrimus.

FOLIA alterna, erecto patula, sessilia, subdecurrentia,
simplicia, graminea, lanceolata, linearia, mul-
tinervia, inferne glaberrima, superne glauce-
scenti-viridia, marginibus saepe erosis.

STIPULÆ binæ, exilissimæ, subulatae.

FLORES vivide purpurei, in pedunculis longis, sub-
solitarii, cernui.

PEDUNCULI axillares, solitarii, uniflori, rarissime
biflori, erecti, subangulati, leves, superne
prope florem bractea subulata instructa, inter
florem et bracteam teretior evadit et pu-
bescit.

CALYX: PERIANTHIUM monophyllum tubulatum,
quinquefidum, quinquenerve, laciniis lanceo-
latis acutis, inferiore longiore, ad lentem
hirsutulis.

COROLLA papilionacea, vivide purpurea; *Vexillum*
antice parum reflexum, dorso compressum;
Alæ subovatae, vexillo breviores, concolores;
Carina semiorbiculata, tumida, dilute rubens.

STAMINA: FILAMENTA diadelphea, simplex et no-
vemfidum, affurgentia; ANTHERÆ subro-
tundæ, *fig.* 1, 2.

PISTILLUM: GERMEN compressum, oblongum, li-
neare; STYLUS planus; STIGMA antice vil-
losum, *fig.* 3.

PERICARPIUM: Legumen lineare, bipollicare, pen-
dulum.

ROOT annual and fibrous.

STALK a foot or more in height, nearly upright, un-
branched for the most part, angular, very
smooth.

LEAVES alternate, betwixt upright and spreading,
sessile, somewhat decurrent, simple, grassy,
betwixt lanceolate and linear, many-ribbed,
below perfectly smooth, above of a some-
what glaucous green colour, the edges often
bitten.

STIPULÆ two, extremely small, and awl-shaped.

FLOWERS of a brilliant purple colour, sitting singly
on long footstalks, drooping.

PEDUNCLES axillary, solitary, one-flowered, very
rarely two-flowered, upright, somewhat an-
gular, smooth, on the upper part near the
flower furnished with an awl-shaped bractea,
betwixt the flower and the bractea it becomes
rounder and slightly downy.

CALYX: a PERIANTHIUM of one leaf, tubular, five-
ribbed, mouth divided into five segments,
which are lanceolate, sharp-pointed, the lower-
most longest, slightly hirsute if magnified.

COROLLA papilionaceous, bright purple or crimson:
the *Standard* somewhat reflexed, and compressed
on the back; *Wings* somewhat ovate, shorter
than the standard, of the same colour; *Keel*
semiorbiculate, tumid, of a faint-red colour.

STAMINA: FILAMENTS in two bodies, one and
nine, rising upward; ANTHERÆ roundish,
fig. 1, 2.

PISTILLUM: GERMEN flattened, oblong, linear:
STYLE flat; STIGMA villous on the fore
part, *fig.* 3.

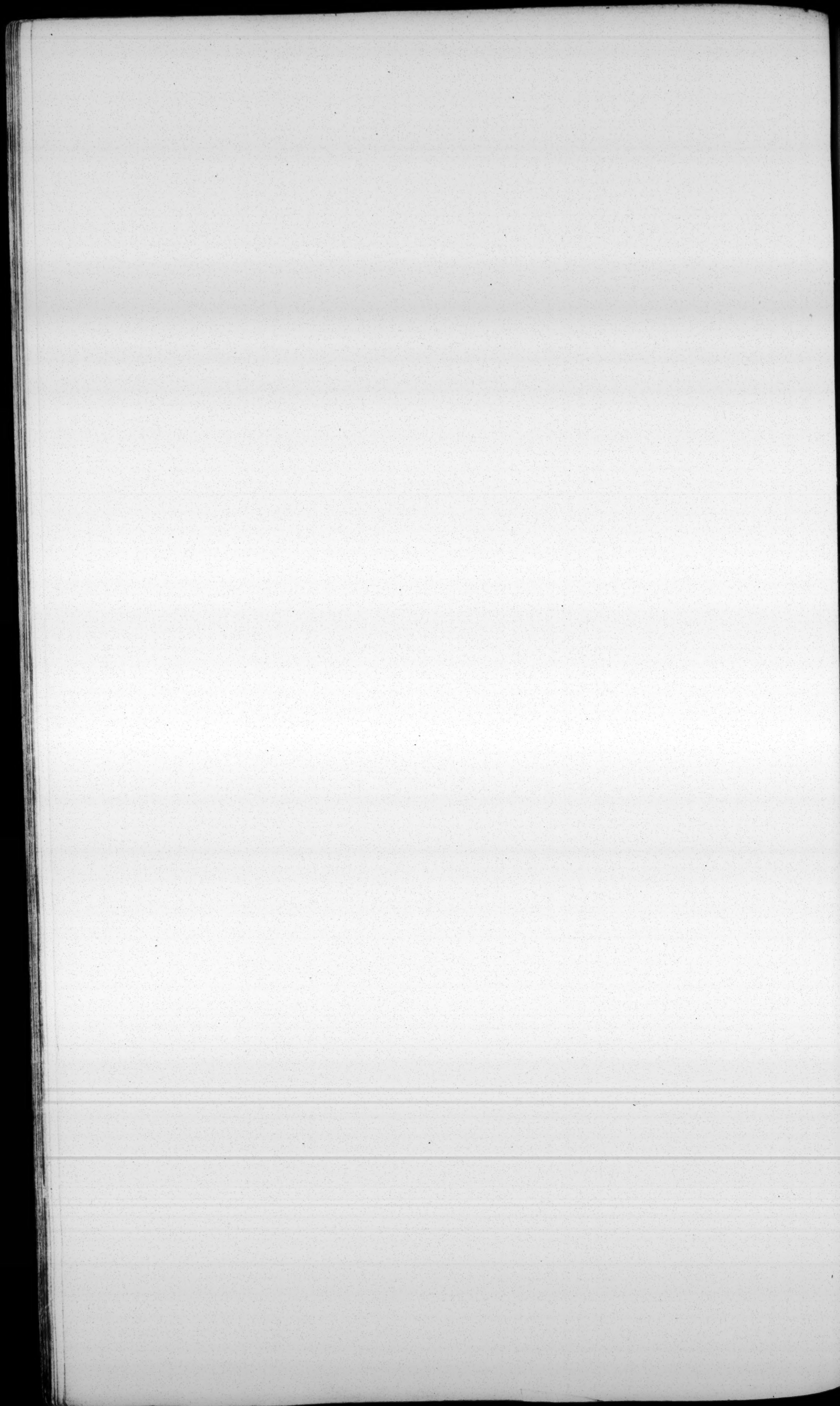
SEED-VESSEL: a linear *Pod*, about two inches long,
and pendulous.

It is in pastures and among the grassy herbage on the confines of woods and hedges that this species of Lathyrus, distinguished for its grass-like foliage and bright crimson flowers, is chiefly found; in such situations it is not very uncommon in the neighbourhood of London: being an annual, its place of growth is liable to great variation, and it is with great difficulty found, unless when in flower, which it usually is about the latter end of June:—in certain parts of the Isle of Shepey, we have observed this plant stronger and in greater abundance than elsewhere.

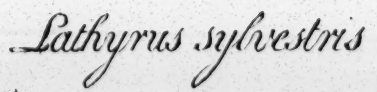
It is sometimes found with white blossoms; *Dodonæus* describes his flowers as yellowish, and his figure, which is not equal to most of his others, represents two blossoms on a peduncle.

In its wild state it is more beautiful than when cultivated, its blossoms being much more brilliant; they appear also to more advantage among the wild grassy herbage, where they have few or no formidable rivals: the period of its flowering is of very short duration, and is a sufficient objection to its being cultivated for ornament.

It is scarcely possible to gather a wild specimen of this plant, which has not some of its leaves bitten on the edges; we have found this erosion to be occasioned by a small oblong Curculio, of a pale-brown colour, very destructive on certain lands, in the spring of the year, to the foliage of *leguminous plants in general*; in some springs, we have seen this insect check the growth and greatly injure so large a plant as the common pea of the kitchen garden, and we have little doubt but whole Clover crops are destroyed by it just as they come into leaf, and the Seedsmen, perhaps, blamed for the badness of his seed;—we are not acquainted with the history of this insect, but recommend it to the serious attention of the agriculturist.







Pub^d Jan. 1 1791 by W. Curtis, St. Georges, Gt. Brit.

LATHYRUS SYLVESTRIS. NARROW-LEAV'D VETCHLING, or EVERLASTING-PEA.

LATHYRUS *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

Stylus planus, supra villosus, superne latior. Cal. laciniae superiores 2 breviores.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *sylvestris* pedunculis multifloris, cirrhis diphyllis: foliolis ensiformibus, internodiis membranaceis. *Linn. Syst. Vegetab. p. 663. Sp. Pl. 1033. Fl. Suec. n. 644.*

LATHYRUS caule alato, foliis geminis ensiformibus. *Haller Hist. 434.*

LATHYRUS *sylvestris*. *Scopoli Fl. Carn. n. 892.*

LATHYRUS *sylvestris* major. *Baub. Pin. 344.*

LATHYRUS *sylvestris* Dodonæi. *Park. 1061.*

LATHYRI majoris species flore rubente et albido minore dumetorum, five Germanicus. *J. B. II. 302. Raii Syn. p. 319. Hudson Fl. Angl. p. 317. Lightfoot Fl. Scot. p. 392.*

RADIX perennis.

CAULIS orgyalis, et ultra, scandens, ramosus, alatus, lævis.

FOLIA petiolata, bina, ensiformia, mucronata, subtus trinervia, basi glandulosa.

PETIOLI triquetri, alati.

CIRRHII plerumque trifidi.

STIPULÆ lineari-lanceolatae, basi hamatae.

PEDUNCULI spithamei, subangulati, nudi, multiflori.

FLORES racemosi, 5 ad 10.

BRACTEÆ subulatae.

PEDICELLI breves, nutantes, colorati.

CALYX: PERIANTHIUM monophyllum, subcampanulatum, quinque-dentatum, quinquenerve, dentibus duobus superioribus brevibus, incurvis, tribus inferioribus rectis, longioribus, *fig. 1.*

COROLLA papilionacea; VEXILLUM amplum, emarginatum, roseum, venis obsolete reticulatum, *fig. 2.* ALÆ oblongæ, obtusæ, violaceæ, carinae adherentes, *fig. 3.* CARINÆ ex albido-virescens, subtoruosa, *fig. 4.*

STAMINA: FILAMENTA decem (simplex et novem fidum) decimum subliberum, obliquum; ANTHERÆ flavæ.

PISTILLUM: GERMEN oblongum, compressum; STYLUS sursum erectus, superne latior; STIGMA antice villosum.

PERICARPIUM: LEGUMEN subbifurciale, femunciam fere latum, compressum, læve, fuscum, polyspermum, *fig. 5.*

SEMINA numerosa, ad 10 aut 12, subrotunda, nigricantia, *fig. 6.*

ROOT perennial.

STALK six feet, or more in height, climbing, branched, winged, and smooth.

LEAVES standing on footstalks, two together, sword-shaped, terminating in a short point, beneath three-ribbed, glandular at the base.

LEAF-STALKS three-sided and winged.

TENDRILS for the most part trifid.

STIPULÆ betwixt linear and lanceolate, hooked or bearded at bottom.

FLOWER-STALKS a span long, somewhat angular, naked, and supporting many flowers.

FLOWERS growing in a bunch, from 5 to 10.

FLORAL LEAVES awl-shaped.

PARTIAL FLOWER-STALKS short, drooping, and coloured.

CALYX: a PERIANTHIUM of one leaf, somewhat bell-shaped, having five teeth and five ribs, the two uppermost teeth short and bent towards each other, the three lowermost straight and longer, *fig. 1.*

COROLLA papilionaceous; STANDARD large, emarginate, rose-coloured, faintly reticulated with veins, *fig. 2.* WINGS oblong, obtuse, violet-coloured, adhering to the keel, *fig. 3.* KEEL of a whitish-green colour, a little twisted, *fig. 4.*

STAMINA: ten FILAMENTS (nine connected, one single) the tenth or single one nearly free, oblique; ANTHERÆ yellow.

PISTILLUM: GERMEN oblong, flattened; STYLE bent upwards, broadest at top; STIGMA anteriorly villous.

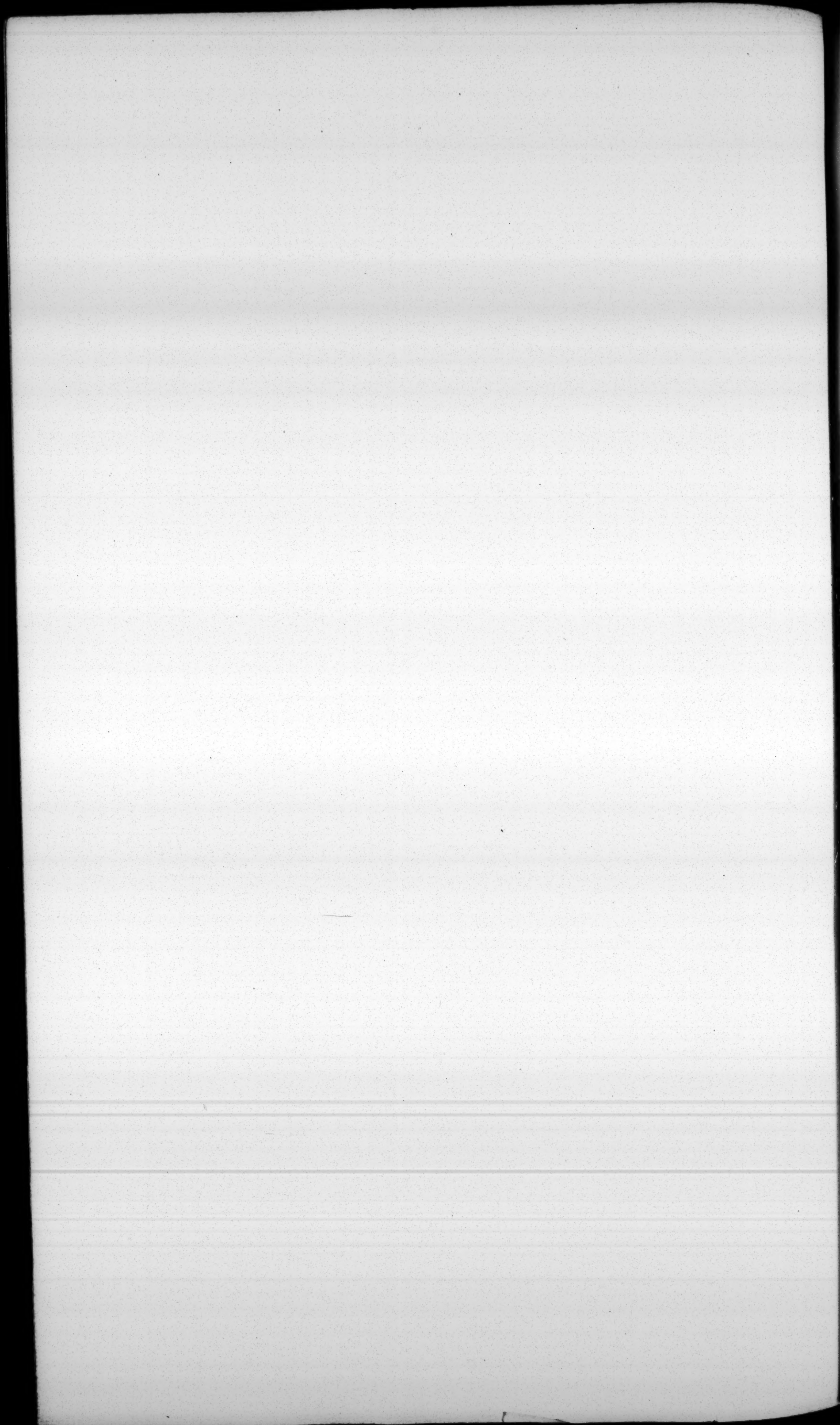
SEED-VESSEL: a POD about two inches long, and nearly half an inch wide, flattened, smooth, brown, containing many seeds, *fig. 5.*

SEEDS numerous, from 10 to 12, nearly round, and blackish, *fig. 6.*

In the neighbourhood of London this species is rare; we have found it sparingly in the Oak of Honour wood near Peckham: in many parts of Kent, in the hedges by the road sides, it grows abundantly.

Though greatly inferior in beauty to the *Lathyrus latifolius*, it has been thought sufficiently ornamental for the flower-garden, in which we frequently find it.

It flowers in June and July; being a hardy perennial, it requires little care in its cultivation: from its size it is rather adapted to the shrubbery or plantation than the flower-garden.







Lathyrus Aphaca.

LATHYRUS APHACA. YELLOW VETCHLING.

LATHYRUS *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Stylus planus, supra villosus, superne latior. Cal. laciniae superiores 2 breviores.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *Aphaca pedunculis unifloris, cirrhis aphyllis, stipulis sagittato-cordatis. Lin. Syst. Vegetab. p. 662. Sp. Pl. 1029.*

LATHYRUS *aphyllos stipulis sagittatis latissimis. Haller hist. n. 442.*

LATHYRUS *Aphaca. Scopoli Fl. Carn. n. 887.*

VICIA *lutea foliis convolvuli minoris. Bauh. Pin. 345.*

APHACA *Parkin. 1067. Ger. emac. 1250. Raii Syn. ed. 3. p. 320. Hudson Fl. Angl. ed. 2. p. 315.*

RADIX annua, fibrosa.

CAULIS pedalis, sesquipedalis, et ultra, debilis, ope cirrhorum scandens, tetragonus, lævis.

FOLIA nulla.

STIPULÆ binæ, magnæ, sagittato-cordatæ, obtusæ, utrinque prope basin denticulo notatæ, glaucæ, subtus nervosæ.

CIRRHUS simplex, patens.

FLORES lutei, parvi, solitarii, pedunculati, axillares.

PEDUNCULI foliis longiores, tetragoni, uniflori, bractæa minimâ prope florem instructi.

CALYX: PERIANTHIUM monophyllum, quinque partitum, lacinii lanceolatis, subæqualibus, nervosis, longitudine fere corollæ, fig. 1.

COROLLA papilionacea, VEXILLUM luteum, reflexum, intus lineis cæruleis striatum, fig. 2. ALÆ luteæ, subrotundæ, longitudine carinæ, hamis duobus inæqualibus, pallidioribus, fig. 3. CARINA pallide sulphurea, postice fissâ, fig. 4.

STAMINA: FILAMENTA decem, simplex, et novem fidum, affurgentia, albida, ANTHERÆ subrotundæ, luteæ, fig. 5.

PISTILLUM GERMEN oblongum, compressum, viride, glabrum; STYLUS sursum erectus, pallidior, superne latior, obtusus; STIGMA a medietate styli antice villosus, fig. 6.

PERICARPIUM: LEGUMEN unciale, latiusculum, compressum.

SEMINA septem octave, subrotunda, nitida.

ROOT annual, and fibrous.

STALK a foot, a foot and a half or more in height, weak, climbing by means of its tendrils, four-cornered, and smooth.

LEAVES none.

STIPULÆ growing in pairs, large, betwixt arrow and heart-shaped, obtuse, on each side near the base furnished with a tooth, glaucous, and ribbed on the under side.

TENDRIL simple and spreading.

FLOWERS yellow, small, solitary, growing on footstalks from the axæ of the leaves.

FLOWER-STALKS longer than the leaves, four-cornered, one-flowered, furnished near the flower with a minute bractæa or floral leaf.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, which are lanceolate, nearly equal, ribbed, and almost the length of the corolla, fig. 1.

COROLLA papilionaceous, STANDARD yellow, reflexed, striped on the inside with blue lines, fig. 2. WINGS yellow, nearly round, the length of the keel, claws two, unequal, paler, fig. 3. KEEL of a pale sulphur colour, cloven behind, fig. 4.

STAMINA: ten FILAMENTS, one single, nine connected, rising upwards, whitish; ANTHERÆ roundish and yellow, fig. 5.

PISTILLUM GERMEN oblong, flat, green, and smooth, STYLE rising upwards, upright, paler, dilated above, obtuse; STIGMA which rises from the middle of the style villous on its fore part, fig. 6.

SEED-VESEL: a POD about an inch in length, broadish, and flattened.

SEEDS seven or eight, roundish, and shining.

We have here a very unusual phenomenon in the vegetable œconomy, a plant whose stipulæ supply the place of leaves, at least when the plant becomes of a certain age; for, by a kind of accidental examination, we lately discovered that this species of Lathyrus, soon after it comes up from seed, is usually furnished with one or more pair of leaves, similar to the other plants of this family, but which, as the plant advances, totally disappear; these are represented at fig. 7.

A somewhat similar appearance we noticed last summer at Mr. MALCOLM'S, *Kennington*, in a rare species of *Mimosa*, called *verticillata*, all the leaves of the young plants were pinnated, and all those of the old plants whorled.

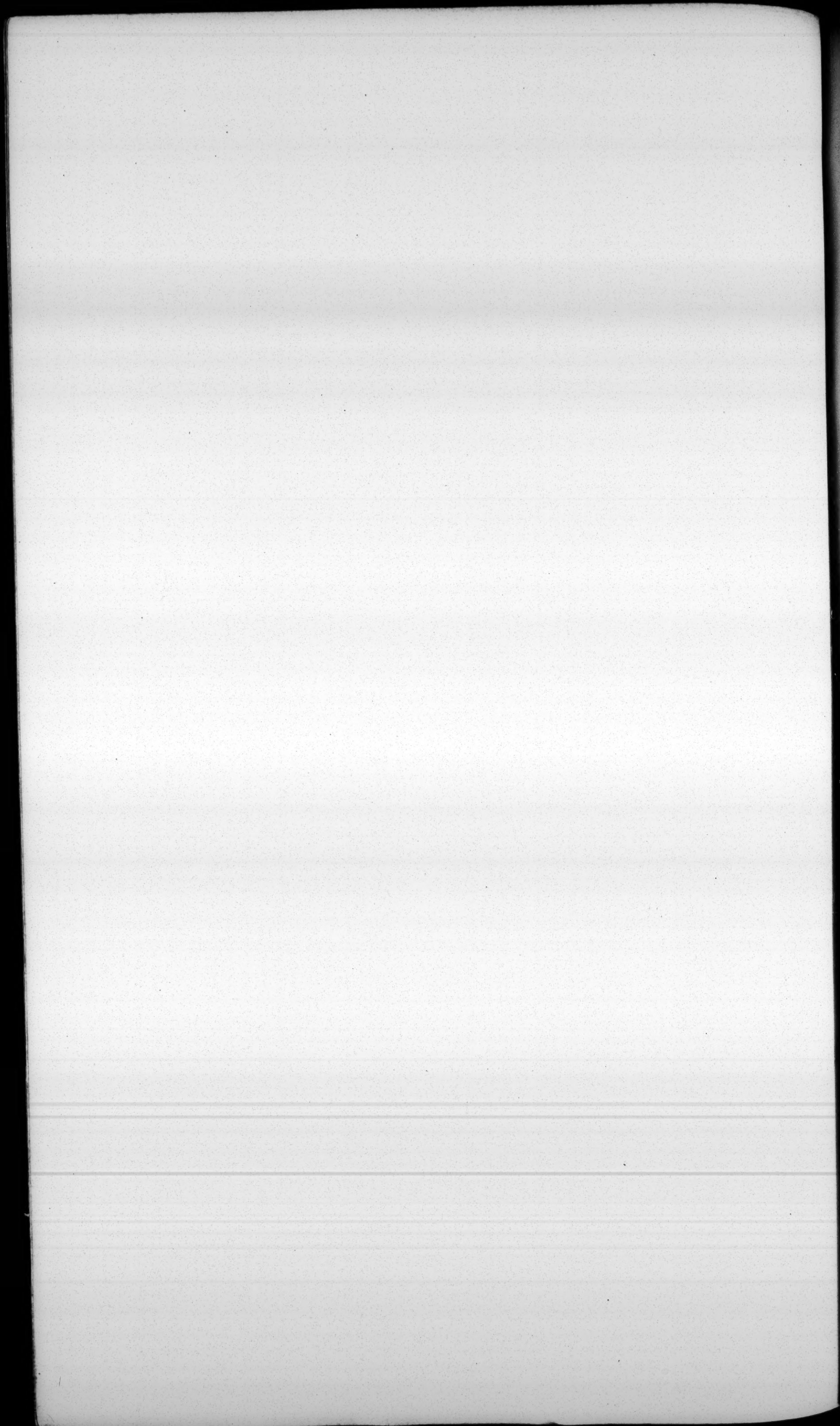
LINNÆUS, in his *Species Plant.* takes some notice of the Aphaca's producing leaves; his words are, *Cirrhus interdum aliquis gerit foliola conjugata, 2, lanceolata, reliquis Lathyris simillima at hoc rarissime.*

According to our observation, the leaves grew on footstalks in the usual way, without any, or a very short tendril, and they were observable on every seedling; hence we suspect them to be common to this plant when young; and rare, merely from being overlooked.

This species is an annual which grows spontaneously in our corn fields, but is not common in the neighbourhood of London; we have observed it most frequently about Tottenham and Enfield.

It flowers in June and July.

No particular uses or noxious qualities are ascribed to it.







Licia cracca.

VICIA CRACCA. TUFTED VETCH.

VICIA *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Stigma latere inferiore transverse barbatum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

VICIA *Cracca* pedunculis multifloris, floribus imbricatis, foliolis lanceolatis pubescentibus, stipulis integris. *Lin. Syst. Vegetab.* p. 553. *Sp. Pl.* p. 1035. *Fl. Suec.* n. 652.

VICIA foliis lanceolatis sericeis, racemis multifloris reflexis, stipulis integerrimis. *Haller. Hist.* n. 424.

VICIA *Cracca.* *Scopoli Fl. Carn.* n. 899.

VICIA multiflora. *Baub. Pin.* 345.

VICIA multiflora seu spicata. *Park.* 1072.

CRACCA. *Riv. Tetr.* 49. *Raii Syn.* p. 322. Tufted Vetches. *Hudson. Fl. Angl.* p. 317. *Lightfoot Fl. Scot.* p. 394.

RADIX perennis, repens.

CAULIS bipedalis, tripedalis et ultra, pro ratione loci, scandens, anguloso-fulcatus, pubescens, fragilis, frangendo crepitans, ramulosus.

STIPULÆ binæ, semisagittatæ, integræ aut dentatæ.

FOLIA pinnata, pinnarum 8 seu 12 parium, raro ultra, oblongo-lanceolata, mucronata, utrinque sericea pube albida, pinnis oppositis alternisve, cirrho tripartito terminata.

FLORES racemosi.

RACEMI alterni, multiflori, primo suberecti, apice incurvi, postea reflexi, flosculis 10 ad 40, violaceis, confertis, brevissime pedicellatis.

CALYX: PERIANTHIUM monophyllum, tubulatum, coloratum, quinque-dentatum, dentibus tribus inferioribus longioribus, pilosis, medio productione, duobus superioribus minimis, *fig. 2.*

COROLLA: VEXILLUM emarginatum, reflexum, violaceum, venis saturatioribus obsolete striatum. ALÆ conniventes. CARINA albida, ad apicem maculâ saturate violaceâ, utrinque notatum, *fig. 1.*

STAMINA: FILAMENTA 10, simplex et novem fidum, alba. ANTHERÆ parvæ, luteæ.

GERMEN oblongum, compressum, glabrum. STYLUS suberectus, undique pilosus. STIGMA obtusum, *fig. 3.*

PERICARPIUM: LEGUMEN femunciale, pallide fuscum, glabrum, utrinque compressum, *fig. 4.*

SEMINA quatuor vel quinque in singulo legumine subrotunda, nigricantia, *fig. 5.*

ROOT perennial and creeping.

STALK two, three feet or more in height, according to its place of growth, climbing, angular, grooved, downy, brittle, snapping when broken, branched.

STIPULÆ growing in pairs, each resembling half an arrow, entire, or toothed.

LEAVES pinnated, composed of 8 or 12 pair, seldom more, oblong, lanceolate, terminated by a point, covered on each side with a kind of white silky down, the pinnæ opposite or alternate, terminated by a tripartite cirrus.

FLOWERS growing in bunches or racemi.

RACEMI alternate, many-flowered, at first nearly upright, with the tip bent in, afterwards reflexed, flowers from 10 to 40, of a violet colour, crowded together, and standing on very short foot-stalks.

CALYX: a PERIANTHIUM of one leaf, tubular, coloured, having five teeth, the three lowermost longer than the upper ones, the middle one farthest extended, the two upper ones very minute, *fig. 2.*

COROLLA: STANDARD emarginate, reflexed, of a violet colour, faintly striped with veins of a deeper colour. WINGS closing. KEEL whitish, marked on each side at the tip with a deeply violet-coloured spot, *fig. 1.*

STAMINA: ten FILAMENTS, nine united, one single, white. ANTHERÆ small and yellow.

GERMEN oblong, compressed, smooth. STYLE nearly upright, hairy all round. STIGMA blunt, *fig. 3.*

SEED-VESSEL: a POD about half an inch long, of a pale brown colour, flattened on each side, *fig. 4.*

SEEDS four or five in each pod, nearly round and blackish, *fig. 5.*

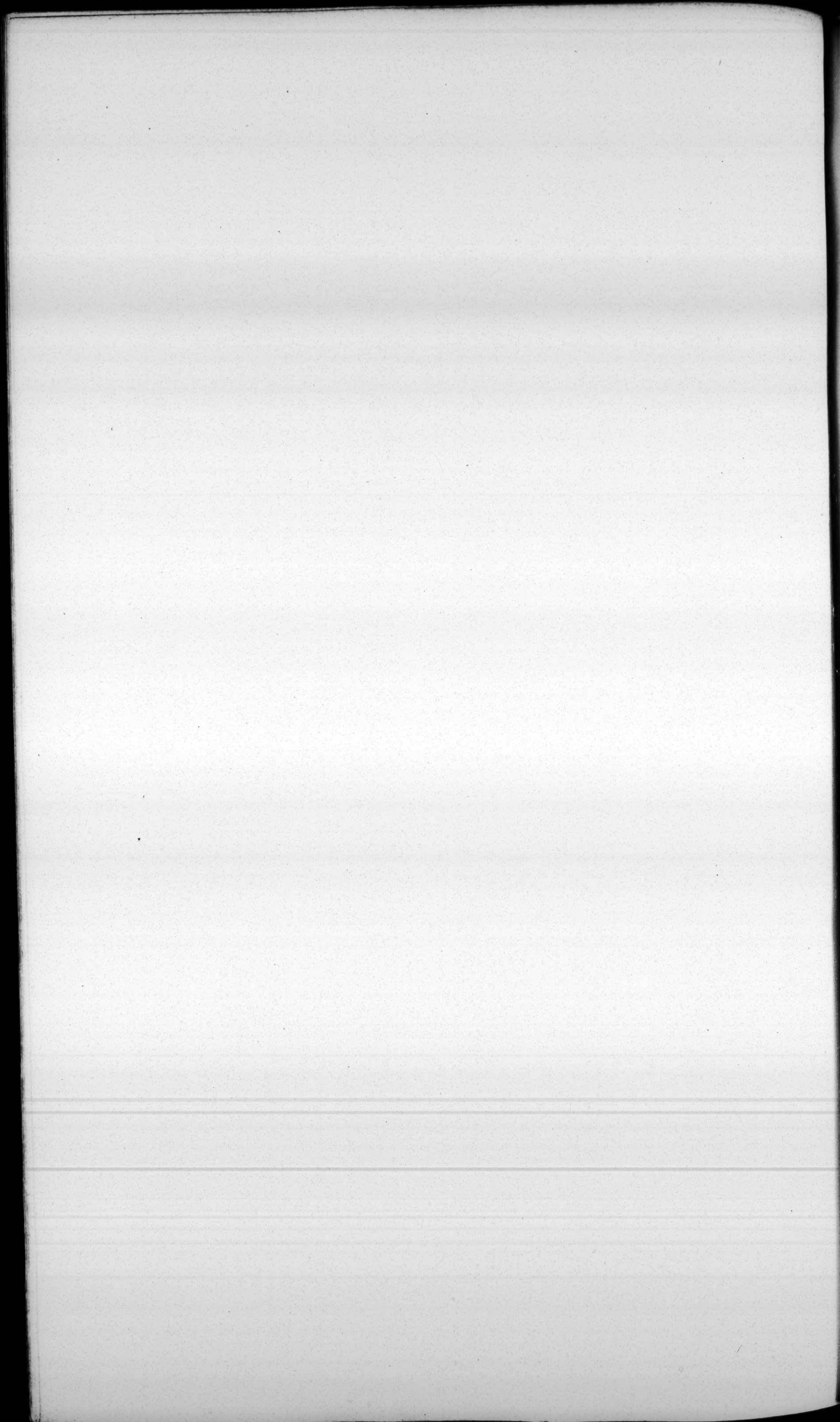
LINNÆUS, HALLER, and SCOPOLI, ascribe to this plant *stipula integræ*. Indeed the two former found a part of their specific character on this very circumstance; but this character is certainly a very fallacious one, as the plant is frequently found with us having *stipula dentatæ*, and such is the specimen we have figured. It has, however, other characters by which it is obviously distinguished. The most striking are drawn from the leaves and flowers: the former are covered with a fine kind of silky down, which gives them a manifest whiteness. This is most apparent in such specimens as grow in dry, exposed situations. The flowers are of a rich deep purple colour, grow in long bunches or racemi, thickly crowded together, and are conspicuous at a distance.

It is a very common plant in the neighbourhood of London, and no where more plentiful than in Battersea Meadows. When it has an opportunity of climbing up a hedge, it will grow to the height of five or six feet; and it is then that its blossoms are displayed to advantage. In the open pastures and fields, it is found much more dwarfish.

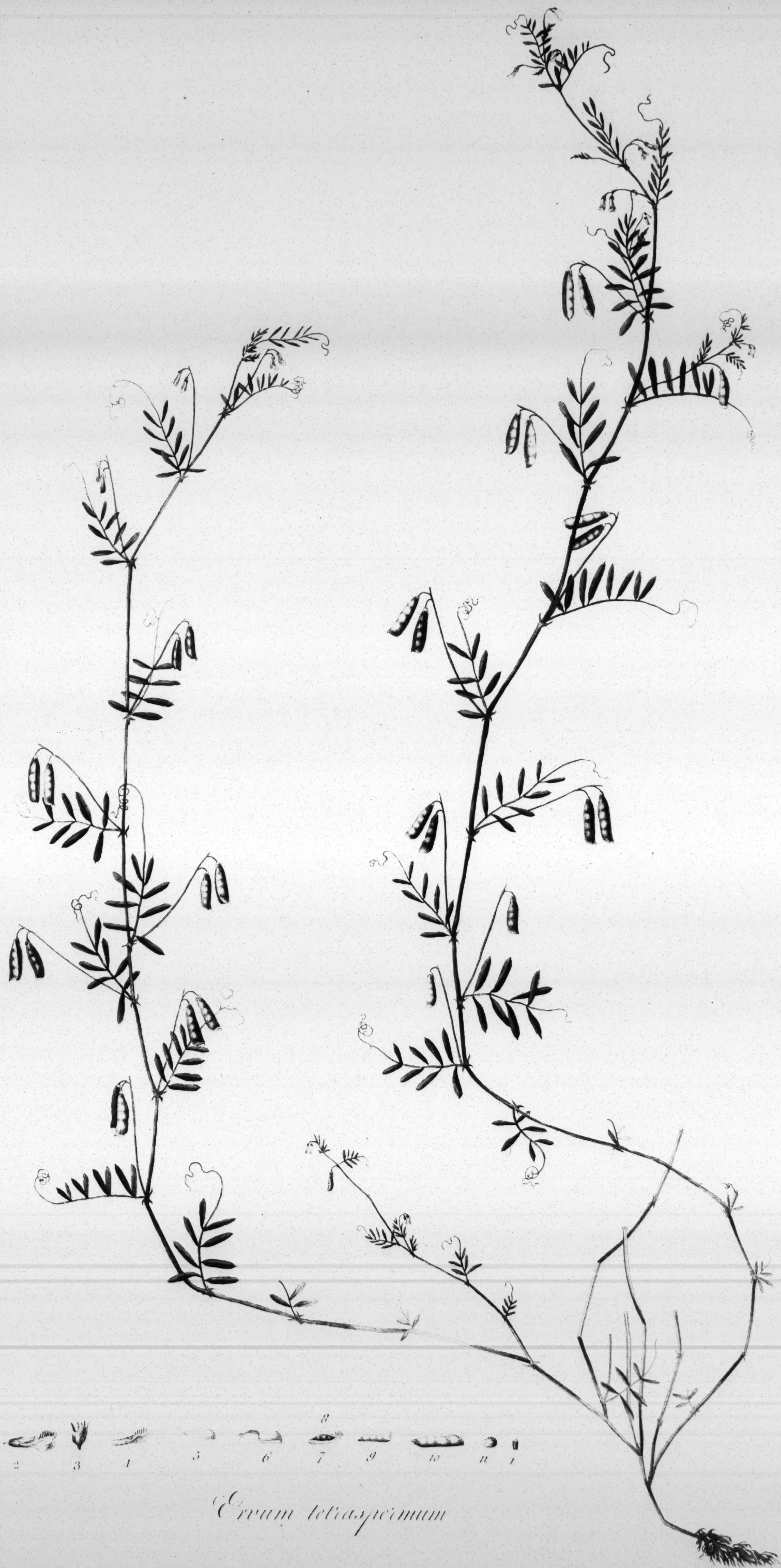
It flowers from July to September.

Gentlemen who wish to decorate the hedges of their plantations cannot select a more proper plant, as it is not apt, like the great Bindweed, Travellers-joy, and other strong growing plants, to suffocate the shrubs which support it.

It is recommended also, by some authors, as affording excellent fodder for cattle.







Ervum tetraspermum

ERVUM TETRASPERMUM. SMOOTH-PODDED TINE TARE.

ERVUM *Linnei Gen. Pl.* DIADELPHIA DECANDRIA.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

ERVUM (*tetraspermum*) pedunculis subbifloris, feminibus globosis quaternis. *Linn. Syst. Vegetab.* p. 554.

VICIA foliis linearibus, filiquis gemellis glabris. *Haller hist. v. 1.* p. 184.

ERVUM *tetraspermum*. *Scopoli Fl. Carniol.* DIAGN. Pedunculi subbiflori. Siliqua glabra, obtusa, tetrasperma.

VICIA segetum singularibus filiquis glabris. *Baubin Pin.* p. 345.

VICIE five Craccæ minimæ species cum filiquis glabris. *I. Baubin.*

CRACCA minor filiquis singularibus, flosculis cœruleiscentibus. *Hoff. C. H. Alt. Raii Syn.* p. 322. Tine-

Tare with smooth pods. *Hudson Fl. Angl* p. 280. *Oeder Fl. Dan. Icon.* 95.

RADIX annua, fibrosa.

CAULES in apertis locis læves, tenues, debiles, inter segetes vero, (ubi sæpius invenitur) capreolis erecte sese sustentant, pedales et ultra.

STIPULÆ ad basin foliorum, duo, simplices, utrinque acuminatæ.

FOLIA pinnata, lævia, lanceolata-linearia, parium trium ad quinque usque, capreolo ramo terminata.

PEDUNCULI longitudine foliorum, plerumque biflori.

CALYX PERIANTHIUM quinquedentatum, persistens, dentibus inæqualibus, acutis, duobus superioribus brevioribus, latioribus, sursum tendentibus, obtuse divisis, *fig. 1.*

COROLLA papilionacea, *fig. 2*; VEXILLUM subemarginatum, limbus reflexus, venis purpureis pictus, *fig. 4*; ALÆ albæ, conniventes, *fig. 5*; CARINALIS brevior, obtusa, *fig. 6.*

STAMINA: FILAMENTA diadelphea (simplex et novemfidum) assurgentia, *fig. 7, 8*, supremum liberum, *fig. 8*; ANTHERÆ simplices.

PISTILLUM: GERMEN compressum; STYLUS assurgens; STIGMA capitatum, villosum, *fig. 9.*

PERICARPIUM: LEGUMEN læve, teretiusculum, *tetraspermum*, *fig. 10.*

SEMINA subrotunda, fuscescentia, nigro marmoreata, *fig. 11.*

ROOT annual and fibrous.

STALKS in open places are slender and weak, but among the Corn, (where this plant is most commonly found,) they support themselves upright by means of their tendrils, and grow to a foot or more in height.

STIPULÆ at the bottom of the leaves, two, simple, and pointed at each end.

LEAVES pinnated, smooth, lanceolate and linear, from three to five pair, terminated by a branched tendril.

PEDUNCLES the length of the leaves, generally sustaining two flowers.

CALYX a PERIANTHIUM having five teeth and continuing, the teeth unequal and pointed, the two uppermost shortest, broadest, and turning a little upwards, at bottom obtusely divided, *fig. 1.*

COROLLA papilionaceous, *fig. 2*; the VEXILLUM slightly nicked in at top, the limb somewhat turned back and streaked with purple, *fig. 4*; the ALÆ white and closing together, *fig. 5*; the CARINA shorter than the Alæ and obtuse *fig. 6.*

STAMINA: Ten FILAMENTS uniting into two bodies, of which one forms the lowermost, *fig. 7*, and one the uppermost which is free, *fig. 8*; ANTHERÆ simple.

PISTILLUM: GERMEN flatten'd; STYLE rising upward; STIGMA forming a little head and villous, *fig. 9.*

SEED-VESSEL: a LEGUMEN, smooth, roundish, and containing four seeds, *fig. 10.*

SEEDS nearly round, brownish and mottled with black, *fig. 11.*

This species of *Ervum* or *Tine-Tare* is found in most Corn-fields, often to the Farmers sorrow, as it frequently proves very injurious to the Corn, laying hold of it by means of its tendrils, and if the season favours its growth quite overcoming it. Like most plants of this kind it is exceedingly fertile; on one plant which I casually pulled up, I counted 220 pods, and as each pod contains four seeds, there must have been from a single seed the amazing produce of 880.

At first sight this species has a considerable resemblance to the *Ervum hirsutum*, but the slightest attention will discover the difference; in the *Ervum hirsutum* the pods contain only two seeds and are hairy; in the *Tetraspermum* they contain four and are smooth; in the *hirsutum* the flowers grow in a kind of cluster, in this species there is seldom more than two grow together.

The figure which I have given is intended to represent the plant as it grows among the Corn; when it is found by itself and in a poor soil it is often not so large.





Cerium hirsutum.

ERVUM HIRSUTUM. ROUGH-PODDED TINE-TARE.

ERVUM *Linnaei Gen. Pl.* DIADELPHIA DECANDRIA. Calyx quinquepartitus, longitudine corollæ.

Raii Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

ERVUM *hirsutum*, pedunculis multifloris, feminibus globosis binis. *Linn. Syst. Vegetab. p. 554. Spec. Plant. 1039. Fl. Suecic. 255.*

VICIA foliis linearibus, filiquis racemosis, dispermis, hirsutis. *Haller hist. helv. n. 422.*

ERVUM *hirsutum. Scopoli Fl. Carniol n. 901. Hudson Fl. Angl. p. 280.*

VICIA fegetum cum filiquis plurimis hirsutis. *Baubin. Pin. p. 345.*

VICIA sylvestris feu Cracca minima. *Gerard. emac. 1028.*

ARACHUS five Cracca minor. *Parkinson 1070. Raii Syn. small wild Tare or Tine Tare. Muller. Flor. Dan. icon. 639.*

RADIX annua, tenuis, prælonga, paucis fibrillis instructa.

CAULES pedales, aut bipedales, debiles, ramosi, quadrangulares, tortuosi.

STIPULÆ in plures lacinias tenues divisæ, superiore majore.

FOLIA pinnata, ad octo aut duodecem paria, opposita, aut subalterna, lævia, lanceolata, apice truncata, nervo medio in mucronem educto, capreolo ramofo terminata.

PEDUNCULI longitudine foliorum, multiflori.

FLORES a tribus ad octo, pallide purpurei, racematim, et imbricatim dispositi.

CALYX: PERIANTHIUM quinquedentatum, persistens, longitudine fere Corollæ, dentibus linearibus, acuminatis, subæqualibus, duobus superioribus more Orobi obtuse divisis, fig. 1.

COROLLA papilionacea; VEXILLUM subrotundum, vix emarginatum, parum reflexum, fig. 2; ALÆ Carinæ adhærentes, ovatae, obtusæ, ad basin lineares, fig. 3; CARINA alis brevior, fig. 4, interne maculâ purpurea utrinque notata.

STAMINA: FILAMENTA decem assurgentia, supremum brevior cæteris, nec liberum, fig. 5; ANTHERÆ simplices, flavæ.

PISTILLUM: GERMEN oblongum, STYLUS simplex, assurgens, STIGMA obtusum, villosum, fig. 6.

PERICARPIUM: LEGUMEN breve, hirsutum, dispermum, fig. 7.

SEMINA duo, subrotunda.

ROOT annual, slender, long, and furnished with few fibres.

STALKS from one to two feet high, weak, branched, quadrangular and twisted.

STIPULÆ divided into many slender lacinia, of which the uppermost is the largest.

LEAVES pinnated, from eight to twelve pair, opposite, or nearly alternate, smooth lanceolate, with the top cut off, and the midrib running out to a short point, terminated by a branched tendril.

PEDUNCLES the length of the leaves, and supporting many flowers.

FLOWERS from three to eight, of a pale purple colour, disposed in racemi, and laying one over another.

CALYX: a PERIANTHIUM with five teeth, continuing, almost the length of the Corolla, the teeth linear, and pointed, nearly equal, the two upper ones obtusely divided in the manner of the Orobus, fig. 1.

COROLLA papilionaceous; the VEXILLUM roundish, scarcely nicked in, bending a little back, fig. 2; the WINGS adhering to the Carina, oval, obtuse, at bottom linear, fig. 3; the CARINA shorter than the Wings, fig. 4, marked internally on each side with a purple spot.

STAMINA: ten FILAMENTS which rise upward, the uppermost connected with, and shorter than the others, fig. 5; the ANTHERÆ simple and yellow.

PISTILLUM: GERMEN oblong, STYLE simple and rising upward, STIGMA blunt and villous, fig. 6.

SEED - VESSEL a short hairy LEGUMEN with two seeds, fig. 7.

SEEDS two, and roundish.

This species of Tine-Tare, which at first sight bears so great a resemblance to the *Ervum tetraspermum*, grows like that, too frequently among Corn, to which it is in general more destructive, as being a stronger and more prolific plant. I have in wet seasons seen whole fields of corn overpower'd and wholly destroyed by this plant.

It is easily distinguished from the *Tetraspermum*; in the first place, the leaves are not pointed as in that species, but appear as if cut off at the end, which although a material circumstance is not noticed by MULLER in his figure of it, *vid. Fl. Dan. icon. 639*; secondly the Stipulæ are divided into many more lacinia; the flowers and consequently the Pods grow in a kind of Cluster, whereas there is seldom more than two grow together in the *Tetraspermum*; and lastly, which seems to be the best distinction, the Pods are rough and contain two Seeds in each, while in the *Tetraspermum*, they are smooth and contain four Seeds.







Omithopus perpusillus

Pub. Jan. 1. 1791 by W. Curtis Sc^{ilicet} Georges Goussier.

ORNITHOPUS PERPUSILLUS. COMMON BIRD'S-FOOT.

ORNITHOPUS Linn. Gen. Pl. DIADELPHIA DECANDRIA.

Legumen articulatum, teres, arcuatum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

ORNITHOPUS *perpusillus* foliis pinnatis, leguminibus incurvatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 670. Spec. Pl. p. 1049.

ORNITHOPODIUM caule prostrato, foliis pinnatis, filiquis umbellatis, articulatis. Hall. Hist. n. 393.

ORNITHOPODIUM majus —, minus —, radice tuberculis nodosa. Baub. Pin. 350.

ORNITHOPODIUM minus. Ger. emac. 1241.

ORNITHOPODIUM radice nodosa. Park. 1093. Raii Syn. p. 326. Bird's-foot. Hudson Fl. Angl. ed. 2. p. 321. Lightfoot Fl. Scot. p. 399.

RADIX annua, tenuis, fibrosa; fibris longis, albidis, tuberculiferis.

CAULES plures, subpalmares, prostrati, simplices, teretes, pubescentes.

FOLIA pinnata, radicalia prostrata, subpetiolata, caulina alterna, sessilia; foliola 6 ad 9 juga, sæpe cum impari, ovalia, subcarinata, per lentem pilosa.

FLORES parvi, ex albo, rubro, et luteo pulchre variegati; pedunculi ex axillis foliorum 3-5 flori, longitudine folii.

CALYX: UMBELLA simplex. PERIANTHIUM monophyllum, tubulatum, pilosum, persistens, ore quinque-dentato, subæquali, fig. 1.

COROLLA papilionacea: VEXILLUM obcordatum, vix emarginatum, album, venis rubris pictum, fig. 2. ALÆ ovatae, rectæ, albæ, magnitudine vix vexilli, fig. 3. CARINA compressa, flavescens, minima, fig. 4.

STAMINA: FILAMENTA diadelphea, simplex et novemfidum, fig. 5. ANTHERÆ simplices, flavescens, fig. 6.

PISTILLUM: GERMEN lineare, viride; STYLUS setaceus, ascendens; STIGMA punctum terminale, ad lentem subcapitatum, fig. 7.

PERICARPIUM: LEGUMEN subulatum, teres, arcuatum, articulatum, isthmisque interceptum, articulatum discedens, fig. 8, 9.

SEMINA solitaria, subrotunda, fig. 10.

ROOT annual, slender, fibrous; fibres long, whitish, beset with tubercles.

STALKS several, about a hand's-breadth in length, prostrate, simple, round, downy.

LEAVES pinnated, the radical ones spread on the ground, and standing on short footstalks, those of the stalks alternate, sessile, composed of from 6 to 9 pair of pinnae, and often terminated by an odd one, oval, somewhat keeled, and hairy if magnified.

FLOWERS small, prettily variegated with white, red, and yellow, peduncles proceeding from the axæ of the leaves and of the same length, supporting from three to five flowers.

CALYX: the UMBEL simple. The PERIANTHIUM monophyllous, tubular, hairy, permanent, the mouth having five teeth, nearly equal, fig. 1.

COROLLA papilionaceous: the STANDARD obcordate, scarcely emarginated, white, marked with red veins, fig. 2. WINGS ovate, straight, white, scarcely so long as the standard, fig. 3. KEEL flattened, yellowish, very minute, fig. 4.

STAMINA: FILAMENTS diadelphous, nine united, one single, fig. 5. ANTHERÆ simple and yellowish, fig. 6.

PISTILLUM: GERMEN linear, green; STYLE tapering, ascending; STIGMA a terminal point, forming when magnified a little head, fig. 7.

SEED-VESSEL: an awl-shaped, round, bowed, jointed POD with cross divisions, separating at the joints, fig. 8, 9.

SEEDS one in each joint, roundish, fig. 10.

The *Ornithopus perpusillus* abounds on most of the heaths and commons near London, especially where the soil is gravelly or sandy.

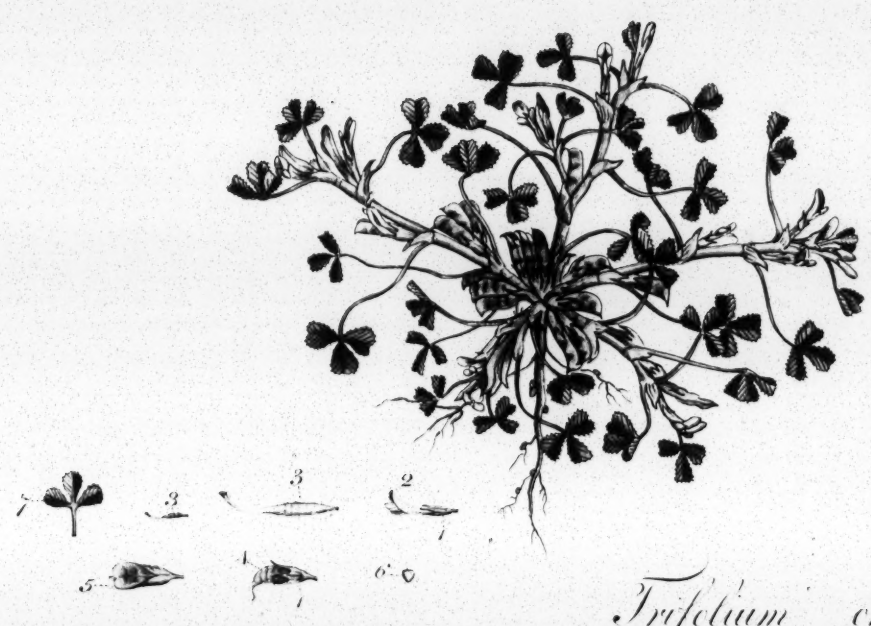
It flowers from June to September.

The beauty of its flowers when closely examined, and the striking similitude which the seed-vessels bear to the claws of a bird, render it an object highly deserving of attention.

It varies greatly in point of size; the little knobs adhering to the roots are common to plants of the leguminous kind.







Trifolium ornithoglossoides

TRIFOLIUM ORNITHOPODIOIDES. BIRDS-FOOT TREFOIL.

TRIFOLIUM *Linnaei* Gen. Pl. DIADELPHIA DECANDRIA.

Flores subcapitati. *Legumen* vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *ornithopodioides* leguminibus nudis octospermis subternis, calycibus duplo longioribus, caulibus declinatis. *Linnaei Syst. Vegetab.* p. 571. *Sp. Pl.* 1078.

MEDICAGO leguminibus ternatis, erectis, recurvis, descendentibus, pedunculo communi. *Hort. Cliff.* 376.

TRIFOLIUM filiquosum loto affine filiquis ornithopodii. *Pluk. phyt. t.* 68. *fig.* 1.

FLENUMGRÆCUM humile repens, ornithopodii filiquis brevibus erectis. *Raii* Syn. p. 331, Fenu-greek with Birds-foot Trefoil Pods, *tab.* 14. *fig.* 1. *Hudson Fl. Angl.* p. 282.

Oeder Fl. Dan. icon. 368.

Lightfoot Fl. Scot. p. 403.

RADIX simplex, albida, fibrosa, tuberculis obfita.

CAULES plures, procumbentes, in humidioribus aut pinguiore solo palmares aut sesquipalmares alias vix quadrantales, crassiusculi, et subrigidi.

FOLIA perexigua, terna, obcordata, profunde denticulata et veluti erosa, lævia, venis rectis non ramosis, *fig.* 7.

STIPULÆ ad basin foliorum binæ, magnæ, venosæ, acuminatæ.

FLORES axillares, carnei, pedunculis brevissimis infidentes, terni, bini aut etiam solitarii.

CALYX: PERIANTHIUM tubulosum, quinquedentatum, persistens, læve, striatum, dentibus acuminatis, nudis, duobus superioribus longioribus, *fig.* 1.

COROLLA papilionacea: VEXILLUM reflexum: ALÆ divergentes, *fig.* 2.

PISTILLUM: GERMEN oblongum, villosum, *fig.* 3.

PERICARPIUM: LEGUMEN magnum, calyce duplo longius, apice mucronatâ incurvâ, in duas valvas ægre dehiscens, *fig.* 4, 5.

SEMINA sex ad decem, difformia, pallida, maculata, *fig.* 6.

ROOT simple, whitish, fibrous, and beset with little knobs or tubercles.

STALKS numerous and procumbent, in a moist or rich soil from four to six inches in length, but most commonly from two to three, thickish for the size of the plant, and somewhat rigid.

LEAVES very small, growing by threes, inversely heart-shaped, deeply notched, so as to appear as if gnawed, smooth, the veins straight, and not branched, *fig.* 7.

STIPULÆ at the base of the leaves two, large, veiny, and pointed.

FLOWERS axillary, pale red, sitting on exceedingly short foot-stalks, growing three or two together, sometimes singly.

CALYX: a PERIANTHIUM which is tubular, with five teeth, permanent, smooth, striated, the teeth acuminate, naked, the two uppermost longest, *fig.* 1.

COROLLA papilionaceous; the STANDARD turning back; and the WINGS separating, *fig.* 2.

PISTILLUM: GERMEN oblong and villous, *fig.* 3.

SEED-VESSEL, a large LEGUMEN, twice the length of the Calyx, the tip ending in a point and bending downward, with difficulty splitting into two valves, *fig.* 4, 5.

SEEDS from six to ten, irregular, pale and spotted, *fig.* 6.

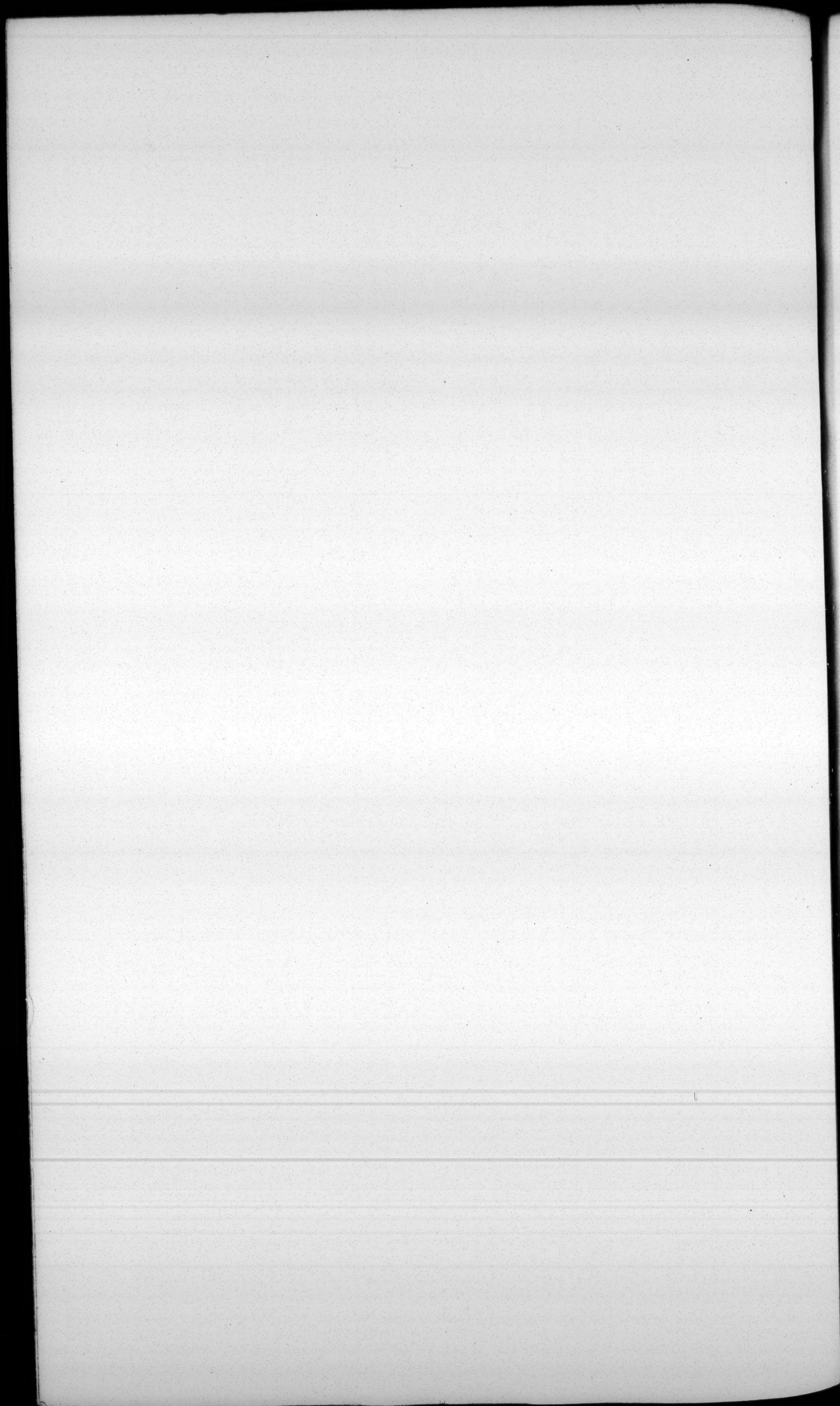
THIS little plant is perhaps more common in this country than is generally imagined, and has probably been overlooked from its minuteness.

It appears to delight in a dry, exposed, gravelly or sandy soil, in which the *Arenaria rubra*, *Trifolium subterraneum*, *Festuca ovina*, and *Sagina erecta* usually grow.

I have found it plentifully in *Totbill-fields*, *Westminster*, and on *Blackheath*. Mr. HUDSON mentions its growing near *Penzance*, in *Cornwall*; and Mr. LIGHTFOOT in *Scotland*.

This plant is not like the *Trifolium subterraneum*, strikingly visible at a distance, but is to be discovered only by carrying the eye near the ground. When once found, there is no difficulty in distinguishing it from the other species. Its leaves are smooth, and much notched or gnawed at the edges; its flowers are pale red; its seed-vessels remarkably large, and growing most commonly two or three together, in which state they somewhat resemble a bird's claw, but not in so great a degree as the *Ornithopus*, or *true Birds-foot* does: the seed-vessels are sometimes single.

Cultivated in a garden, it grows to a much larger plant than is represented on the plate.



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Trifolium ochroleucum

S. Edwards del. F. Sargent sculp.

TRIFOLIUM OCHROLEUCUM. YELLOW CLOVER.

TRIFOLIUM. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. *Capsula* vel *Legumen* vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *ochroleucum* spicis villosis, caule erecto pubescente, foliolis infimis obcordatis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 1143. Jacq. Fl. Austr. v. 1. p. 26. t. 40.*

TRIFOLIUM *ochroleucum* spicis villosis globosis, corollis monopetalis, calycum infimo dente longissimo recto, caule subdeclinato, foliisque villosis infimis obcordatis. *Hudf. Fl. Angl. ed. 2. p. 325.*

TRIFOLIUM caule erecto, foliis hirsutis, supremis conjugatis, spicis oblongis. *Hall. Hist. 378.*

TRIFOLIUM pratense hirsutum majus, flore albo-fulphureo seu *αχρολεύκον*. The great white or yellowish Meadow-Trefoil.

TRIFOLIUM montanum majus flore albo-fulphureo. *Merr. Pin.*

RADIX perennis.

CAULES plures, pedales, sesquipedales, erecti, ramosi, teretes, hirsuti, sæpe purpurascens.

FOLIA utrinque hirsuta, mollia, integerrima, ad oras sæpe purpurea, infima minora, obcordata, caulina majora longe petiolata, remota, ovato-oblonga, obtusa, suprema breve petiolata, angustiora.

STIPULÆ oblongæ, semiamplexicaules, nervosæ, bicuspidatæ, apicibus prælongis.

FLORES in capitulis, solitariis, villosis, primo subrotundis, demum subovatis.

CALYX persistens, monophyllus, tubulatus, albidus, hirsutus, quinque-dentatus, infimo dente cæteris duplo longiore, *fig. 1.*

COROLLA papilionacea, monopetala, ochroleuca: *Vexillum* infra tubulosum, tubo longitudine dentis calycinis infimi, limbo lanceolato, compresso, erecto, tubi longitudine; *Alæ* *Carinaque* cum vexillo coalitæ, illoque multo breviores, *fig. 2.*

STAMINA: FILAMENTA diadelphea simplex et novemfidum: ANTHERÆ simplices, minutæ flavæ.

PISTILLUM: GERMEN subovatum: STYLUS subulatus, adscendens: STIGMA simplex.

PERICARPIUM: LEGUMEN calyce striato inclusum, membranaceum, tener, tenue, monospermum.

SEMEN luteum.

ROOT perennial.

STALKS several, a foot to a foot and a half in length, upright, branched, round, hirsute, often purplish.

LEAVES hairy on both sides, soft, perfectly entire, often purple at the edges, the lowermost ones small, inversely heart-shaped, those of the stalk large, standing on long footstalks, ovato-oblong, obtuse, the uppermost ones narrower, standing on short footstalks.

STIPULÆ oblong, half embracing the stalk, strongly ribbed, terminating in two long points.

FLOWERS growing in single, villous heads, which at first are nearly round, and afterwards somewhat ovate.

CALYX continuing, monophyllous, tubular, whitish, hirsute, five-toothed, the lowermost tooth twice the length of the others, *fig. 1.*

COROLLA papilionaceous, monopetalous, pale yellow; *Standard* below tubular, tube the length of the lowermost tooth of the calyx, limb lanceolate, upright, length of the tube, sides compressed, *Wings* and *Keel* united to the standard, and much shorter than it, *fig. 2.*

STAMINA: FILAMENTS united in two bodies, nine and one; ANTHERÆ simple, minute, and yellow.

PISTILLUM: GERMEN somewhat ovate; STYLE tapering to a point, bending upward; STIGMA simple.

SEED-VESSEL: a POD contained within the striated calyx, membranous, thin, tender, one-seeded.

SEED yellow.

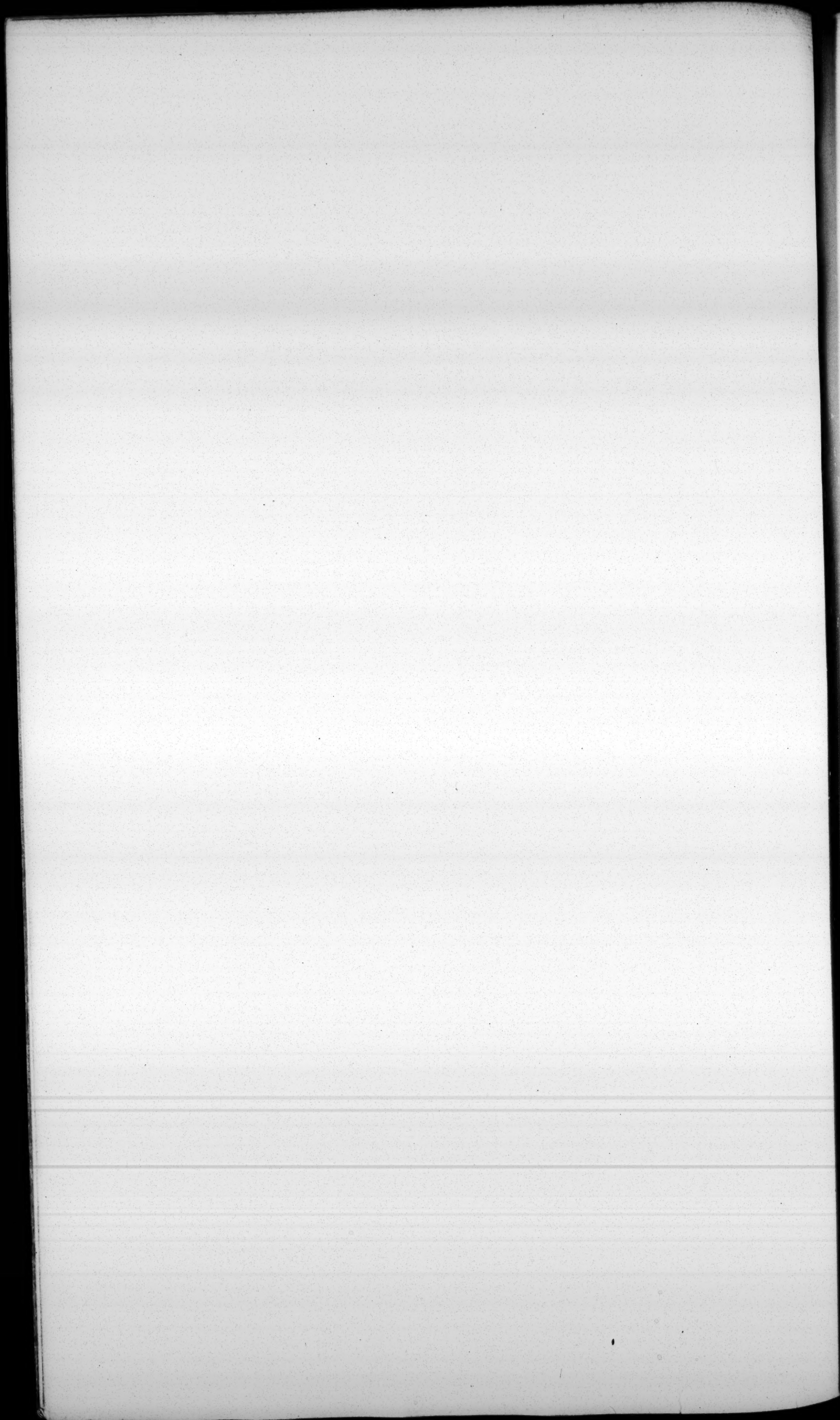
The *Trifolium ochroleucum* borrows its name from the colour of its blossoms, which is pale yellow, or brimstone, and that constantly so; by this character it is sufficiently distinguished from such of our other Clovers as resemble it in their general appearance: to this we may add the greater hairiness of the whole plant, the unusual length and uprightness of the Vexillum, as well as the disproportionate length of the lowermost segment of the Calyx. Did such distinctions generally prevail, enchanting indeed would be the study of plants!

This species affects dry pastures in the more eastern parts of the kingdom, and frequently such as have a chalky or calcareous soil; in the environs of London it is rarely found; we have observed it sparingly about Barnet; in some parts of Essex, especially about Dunmow, it is particularly abundant, as we are assured by our excellent friend, Dr. JOHN SIMS, to whose botanical skill we are proud of acknowledging ourselves frequently indebted: we have received roots of it also from LEWIS MAJENDIE, of Hedingham-Castle, Essex, of whose knowledge in agriculture, and of whose zeal in promoting his country's best interests, the annals of agriculture afford ample testimony.

It flowers in June and July.

From the great aversion it has to moisture, we could never keep it in our garden at Lambeth-Marsh.

In point of produce it is superior to the *Trifolium repens*, and, for certain soils and situations, it may perhaps prove a good substitute for it, or the *pratense*. We recommend it to the notice of the experimental agriculturist.







Trifolium repens.

TRIFOLIUM REPENS. DUTCH CLOVER.

TRIFOLIUM *Linnei Gen. Pl.* DIADELPHIA DECANDRIA

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Synopf. Gen. 24. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *repens* capitulis umbellaribus, leguminibus tetraspermis, caule repente. *Lin. Syst. Vegetab. p. 572. Sp. Pl. p. 1080. Flor. Suec. n. 665.*

TRIFOLIUM caule repente; spicis depressis; siliquis tetraspermis. *Haller Hist. n. 367.*

TRIFOLIUM *repens Scopoli. Fl. Carniol.*

TRIFOLIUM *pratense album C. B. pin 327.*

TRIFOLIUM minus *pratense*, flore albo *Ger. emac. 1185. Parkinson. 1110. Raii. Syn. p. 327. White-flower'd Trefoil.*

Hudson. Fl. Angl. ed. 2. p. 34.

Lightfoot Fl. Scot. p. 404.

RADIX perennis, fibrosa.

CAULES plurimi, repentes, late sparsi, teretes, simplicies, glabri, virides, seu purpurascens.

STIPULÆ ovato-lanceolatae, venosae, venis purpurascens.

FOLIA ternia, variabilia, nunc ovata, obtusa, nunc obcordata, emarginata, acute serrata, viridia, seu purpurascens, macula lunulata albicante perumque notata.

PEDUNCULI longissimi, erecti, striati.

FLORES plerumque albi, purpurascens etiam occurrunt glomerati, junioribus erectis, maturis deflexis, fascis.

CAPITULA majuscula, praesertim in culta planta, sphaerica.

CALYX: PERIANTHIUM monophyllum, quinquedentatum, saepius coloratum, striis decem clavatis notatum, dentibus setaceis, duobus superioribus paulo longioribus. *fig. 1.*

COROLLA papilionacea, calyce duplo longior; VEXILLUM oblongum, submarginatum, reflexum *fig. 2.* ALÆ duae vexillo multo breviores; *fig. 3.* CARINA brevissima, basi bifida. *fig. 4.*

STAMINA: FILAMENTA diadelpa, simplex et novemadum; *fig. 5. 6.* ANTHERÆ parvae, lutae.

PISTILLUM: GERMEN oblongum, teretiusculum; STYLUS tubulatus, longitudine germinis; STIGMA flavescens, capitatum. *fig. 7.*

PERICARPUM: LEGUMEN oblongum, teres, mucronatum torulosum. *fig. 8.* continens

SEMINA duo ad quatuor. *fig. 9.*

ROOT perennial and fibrous

STALKS numerous, creeping, spreading wide, round, unbranched, smooth, green, or purplish.

STIPULÆ ovate and pointed, veiny, the veins purplish

LEAVES growing three together, variable as to their shape, being sometimes ovate and blunt, sometimes inversely heartshaped and notched at the end, sharply sawed round the edge, of a green or purplish colour and having most commonly a whitish mark in the center.

FLOWER-STALKS very long, upright and striated.

FLOWERS generally white, but sometimes purplish, growing in a cluster, the young ones upright, the old ones hanging down and becoming brown

HEADS large, especially in the cultivated plant, and of a round shape.

CALYX: a PERIANTHIUM of one leaf, having ten teeth generally coloured, marked with ten ribs, the teeth bristle-shaped, the two uppermost somewhat the longest. *fig. 1.*

COROLLA papilionaceous, twice the length of the calyx; STANDARD oblong, slightly notched at the extremity, and turning back; *fig. 2.* WINGS two, much shorter than the standard; *fig. 3.* KEEL very short, divided at the base. *fig. 4.*

STAMINA: ten FILAMENTS one single, the rest united into one body; *fig. 5. 6.* ANTHERÆ small, and yellow.

PISTILLUM: GERMEN oblong, roundish; STYLE tapering, the length of the germen; STIGMA yellowish, forming a little head. *fig. 7.*

SEED-VESSEL: an oblong, round, jointed pod, *fig. 8.* terminating in a point and containing

SEEDS from two to four. *fig. 9.*

THE creeping or Dutch Clover may be considered as one of our most valuable British plants, the greatest part of the seed used in this country is imported from Holland, where it is cultivated on account of its seed, and hence it has acquired the name of Dutch Clover, as it is a plant which grows naturally wild in this country, on dry, gravelly, and indifferent soils, it is probable it might also be cultivated for the same purpose in many parts of Great Britain, where land and labour are cheap, and that to great advantage.

The quantity of Seed sold annually in this country is astonishingly great, Messrs. Gordon and Dermer who do not particularly deal in this article sell every year forty or fifty tons weight of it.

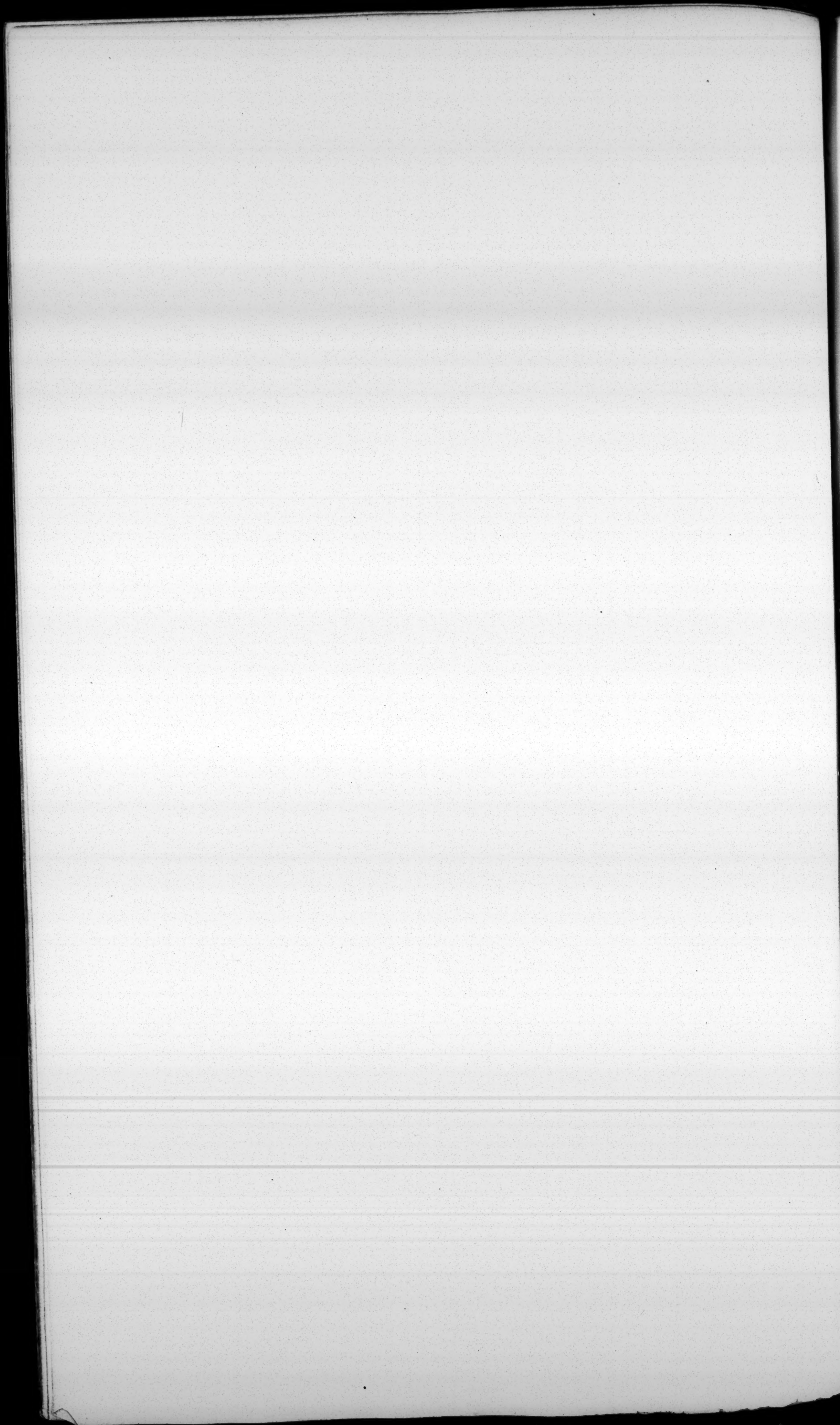
Those plants which have creeping roots or stalks have the advantage of most others in point of growth, and when a plant of this kind growing naturally in a barren soil, comes to have the advantage of cultivation, it flourishes amazingly, so does the Dutch Clover, a single seedling of which I have known in a garden to cover more ground than a yard square, in one summer.

Although this plant does not grow so tall as some others, yet the vast number of stalks, leaves, and blossoms which it throws out produces a great bottom in a pasture, and thereby stamp a particular value on it.

It is not a plant however which makes any great figure in the spring, but its chief excellence consists in its producing herbage in dry summers, late in the season, when most of the grasses are burnt up, it then covers the fields with a beautiful verdure, and affords plenty of food to the Cattle, or hay for a second crop.

There is an idea very prevalent among farmers, that ashes alone spread on land will produce this plant in abundance, they do not know, or will not believe, that the plant previously existed in the ground, and is only render'd larger and more conspicuous by the manure.

Of the *Trifolium repens* I have observed two remarkable varieties, viz. one with leaves of a deep purple colour, cultivated in gardens as an ornamental plant, the other proliforous, having small heads of leaves growing out of the flowers, this I found several years ago on the left-hand side of the canal, leading from Limehouse to Bromley, there are likewise several other varieties, which depend on the richness and poverty of soil.



1855



Trifolium arvense

TRIFOLIUM ARVENSE. HARE'S-FOOT TREFOIL.

TRIFOLIUM. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *arvense* spicis villosis ovalibus, dentibus calycinis setaceis villosis æqualibus. *Linn. Syst. Vegetab. ed. 14. Murr. p. 689. Sp. Pl. p. 1083. Fl. Suec. n. 668.*

TRIFOLIUM caule ramoso, foliis lanceolatis serratis, spicis villosis ovatis. *Hall. Hist. n. 373.*

TRIFOLIUM *arvense*. *Scopoli Fl. Carn. p. 83. v. 2.*

TRIFOLIUM *arvense* humile spicatum f. *Lagopus. Baub. Pin. 328.*

LAGOPUS trifolius. *J. Baub. Hist. 2. p. 377.*

LAGOPUS five Pes Leporis. *Ger. emac. 1193.*

LAGOPUS vulgaris. *Park. 1107. Raii Syn. p. 330.*

Hare's-Foot or Hare's-Foot Trefoil. *Hudson Fl. Angl. ed. 2. p. 326. Lightfoot Fl. Scot. p. 406.*

RADIX annua, fusiformis, simplex, albida.

CAULIS pedalis, suberectus, ramosus, teres, læviusculus, pilis crebris, mollibus, albis, canescens.

RAMI alterni, breviusculi, patulo-erecti.

FOLIA ternata; foliola æqualia, oblongo-obovata, emarginata, leviter striata, pilosa.

STIPULÆ bicuspidatæ, apicibus subulatis, striatæ, striis interdum rubris.

FLORES parvi, albi, in capitulis terminalibus, subovalibus, pilosissimis, cano-carneis.

CALYX: PERIANTHIUM tubulatum, 5-dentatum, pilosissimum, albidum, dentibus subæqualibus, longitudine tubi, setaceis, rubris, *fig. 1.* pili cani sub microscopio recti, longissimi.

COROLLA papilionacea, calyce brevior, alba; VEXILLUM obovatum, obsolete crenulatum; ALÆ angustæ, dimidio breviores; CARINA obtusula brevior, *fig. 2.*

STAMINA diadelphea, simplex et novemfidum, ANTHERÆ simplices.

PISTILLUM: GERMEN subovatum; STYLUS subulatus, ascendens; STIGMA simplex.

SEMEN subovatum, glabrum, virescens, calyce tectum, *fig. 3.* excerptum, *fig. 4.*

ROOT annual, tapering, simple, whitish.

STALK about a foot high, nearly erect, branched, round, smoothish, grey, with numerous soft white hairs.

BRANCHES alternate, shortish, betwixt upright and spreading.

LEAVES growing three together, equal, oblong-obovate, emarginate, faintly striated, hairy.

STIPULÆ two-pointed, tips awl-shaped, striated, veins sometimes red.

FLOWERS small, white, in terminal heads somewhat oval, very hairy, of a greyish flesh colour.

CALYX: a tubular PERIANTHIUM of five teeth, very hairy, whitish, teeth nearly equal, as long as the tube, bristle-shaped, and red, *fig. 1.* the hairs grey, magnified appear straight, and very long.

COROLLA papilionaceous, shorter than the calyx; STANDARD obovate, faintly notched; WINGS narrow, shorter by one half, KEEL obtuse, shorter than the wings, *fig. 2.*

STAMINA in two bodies, one single, nine united; ANTHERÆ simple.

PISTILLUM: GERMEN subovate; STYLE tapering, ascending; STIGMA simple.

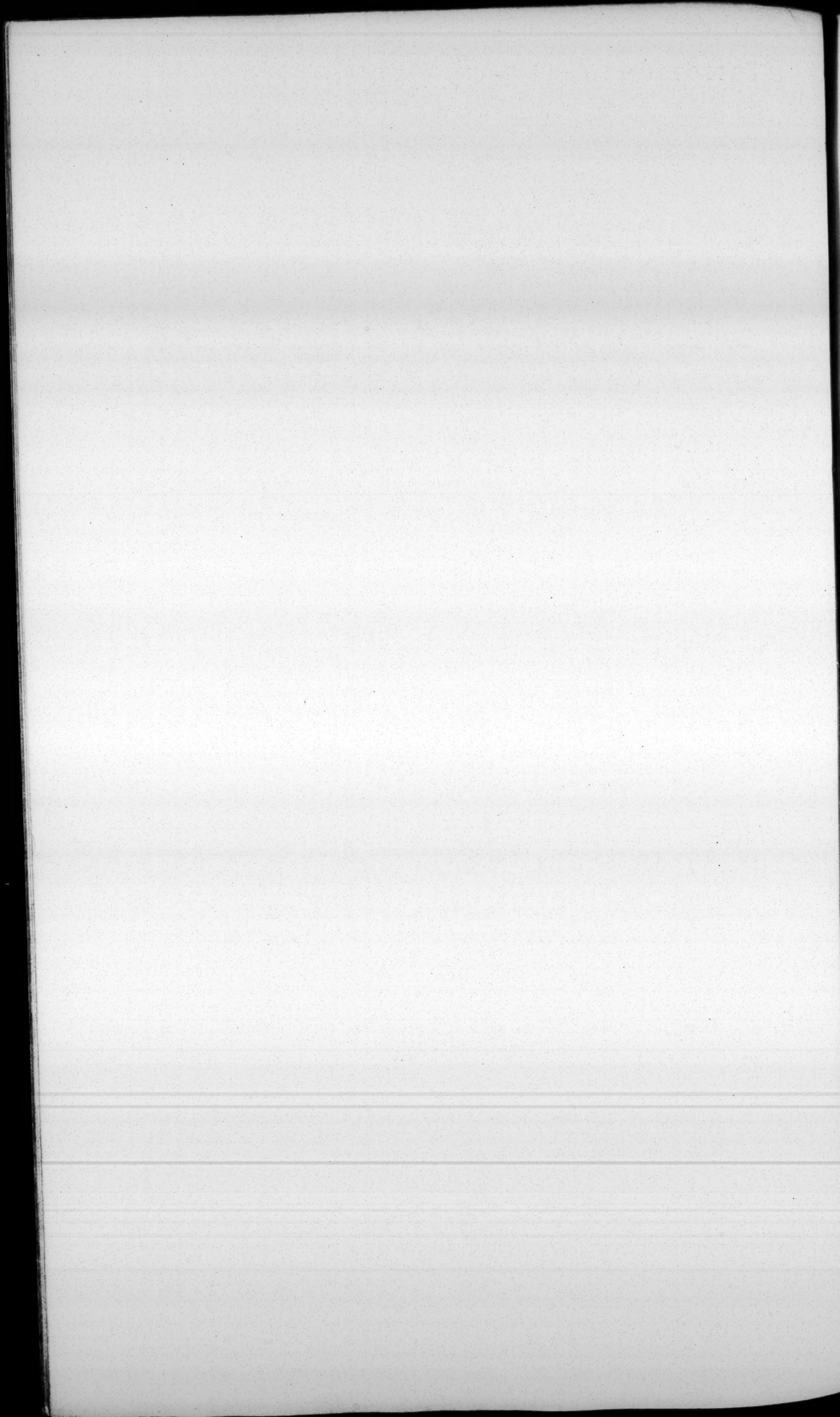
SEED somewhat ovate, smooth, greenish, covered by the calyx, *fig. 3.* taken out, *fig. 4.*

The *Trifolium arvense*, though not to be found in every walk that one takes about London, is common enough in sandy, and gravelly soils, and in light arable lands, which it chiefly affects; we have observed it most frequently about Charlton; in the sand pits behind the Church it may be found with certainty.

There is scarcely any tribe of plants which vary more in their inflorescence than the Trefoils (see the several species figured in this work) the *arvense* differs remarkably from all our others, the flowers growing in soft, oblong, hairy heads, of a light colour, which have a most pleasing appearance, and render the plant very conspicuous, it is from these, as is well known, it has very generally acquired the name of Hare's-Foot.

From what we have observed, the seeds in many of the species of this genus are not scattered abroad as in most of the leguminous plants, but vegetate in the heads as they lie on the ground; we have noticed this æconomy in the present as well as other species; how far the whole genus is subject to it deserves inquiry.

LINNÆUS in his *Flor. Suec.* considers the *Lagopus perpusillus supinus perelegans maritimus Lobelii* of Ray's *Synopsis*, p. 330. t. 14. f. 2. as a variety merely, having found it to have an annual root, and to become like the other on being cultivated.







Trifolium scabrum

TRIFOLIUM SCABRUM. ROUGH TREFOIL.

TRIFOLIUM Linn. Gen. Pl. DIADELPHIA DECANDRIA.

Flores subcapitati. Capsula vel Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *scabrum* capitulis sessilibus lateralibus ovatis, calycibus inæqualibus rigidis persistentibus.
Linn. Sp. Pl. ed. 3. p. 1084.

TRIFOLIUM *scabrum* capitulis sessilibus lateralibus ovatis, calycis laciniis inæqualibus rigidis recurvis.
Linn. Syst. Vegetab. ed. 14. Murr. Scopoli Fl. Carn. ed. 2. p. 81. Hudf. Fl. Angl. ed. 2. p. 327.

TRIFOLIUM caulibus prostratis, capitulis ovatis, in alis sessilibus, calycibus rigidis, segmentis rectis.
Hall. Hist. Helv. n. 371.

TRIFOLIUM flosculis albis, in glomerulis oblongis asperis, cauliculis proxime adnatis. *Raii Syn. ed. 3. p. 329. Vaill. Par. t. 33. f. 1.*

RADIX annua, fibrosa.

CAULES ex eadem radice plures, procumbentes, triunciales ad semipedales et ultra in planta culta, teretes, flexuosi, pilis longis subappressis vestiti, ramosi.

FOLIA in eadem planta varia, inferiora plerumque obovata, obtusa, superiora ovata, acuta, uti caulis pilosa, mucrone terminata, subdenticulata, venis ad marginem superne præter morem prominentibus.

STIPULÆ nervosæ, acuminatæ, rubro striatæ.

FLORES albi, parvi, angusti, capitati, capitulis ovatis, sessilibus, lateralibus.

CALYX: PERIANTHIUM monophyllum, tubulatum, quinquesidum, villosum, in florescente planta rubedine tinctum, laciniis majusculis, lanceolatis, rectiusculis, duabus superioribus minoribus, peracta florescentia reflexo-patulis, rigidulis, tubus sulcatus, *fig. 1.*

COROLLA papilionacea; VEXILLUM rectiusculum, obtusum; ALÆ vexillo paulo breviores, obtusæ; CARINA longitudine fere alarum, *fig. 2.*

STAMINA: FILAMENTA 10, capillaria, alba; ANTHERÆ flavæ.

PISTILLUM: GERMEN oblongum, viride; STYLUS longitudine staminum; STIGMA capitatum.

SEMINA intra calycem nervosum solitaria, lutea, ovalia, nitida.

ROOT annual and fibrous.

STALKS many from the same root, procumbent, from three to six inches in length or more in the cultivated plant, round, crooked, covered with long hairs somewhat pressed to it, branched.

LEAVES various in the same plant, the lower ones for the most part inversely ovate, obtuse, the upper ones ovate, and pointed, hairy like the stalk, terminating in a short point, slightly toothed, veins near the margin on the upper side unusually prominent.

STIPULÆ rib'd, long-pointed, streaked with red.

FLOWERS small, white, narrow, growing in little heads, which are ovate, sessile, and lateral.

CALYX: a PERIANTHIUM of one leaf, tubular, divided into five segments, villous, in the flowering plant coloured with red, the segments somewhat large, lanceolate, nearly straight, the two uppermost ones smallest, when the flowering is over spreading and somewhat bent back, a little rigid, the tube grooved, *fig. 1.*

COROLLA papilionaceous; STANDARD nearly straight, obtuse; WINGS a little shorter than the standard, obtuse; KEEL the length nearly of the wings, *fig. 2.*

STAMINA: ten white capillary FILAMENTS; ANTHERÆ yellow.

PISTILLUM: GERMEN oblong, green; STYLE the length of the stamens; STIGMA forming a little head.

SEEDS one within each rib'd calyx, yellow, oval, and glossy.

The *Trifolium scabrum* is a plant found in many parts of Europe, growing in open situations, and particularly affecting chalky, or calcareous soils; we have not observed it nearer London than the neighbourhood of Croydon; it grows abundantly in the Isle of Shepey; is found also between Northfleet and Gravesend, and in various parts of the kingdom.

It takes its name of *scabrum* from the roughness of its heads, a character not altogether peculiar to this species.

It flowers in June and July, and grows readily from seeds.

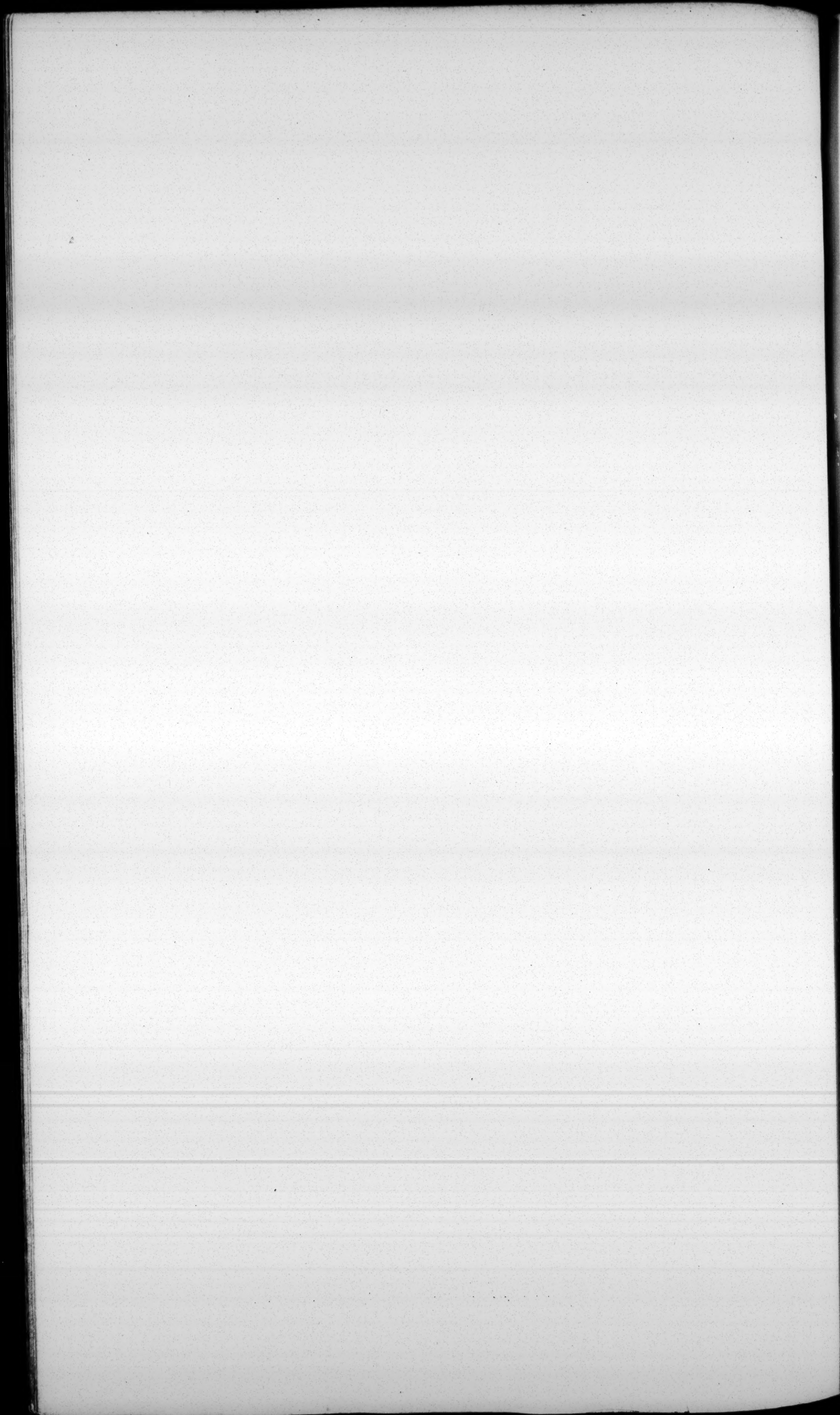
The Calyces, which are tinged with red when the plant is in flower, become afterwards green.

In the spring of the year, while the plant is young, the foliage is remarkably pretty; the veins on the upper side of the leaf near the margin, which are unusually prominent, being then most conspicuous.

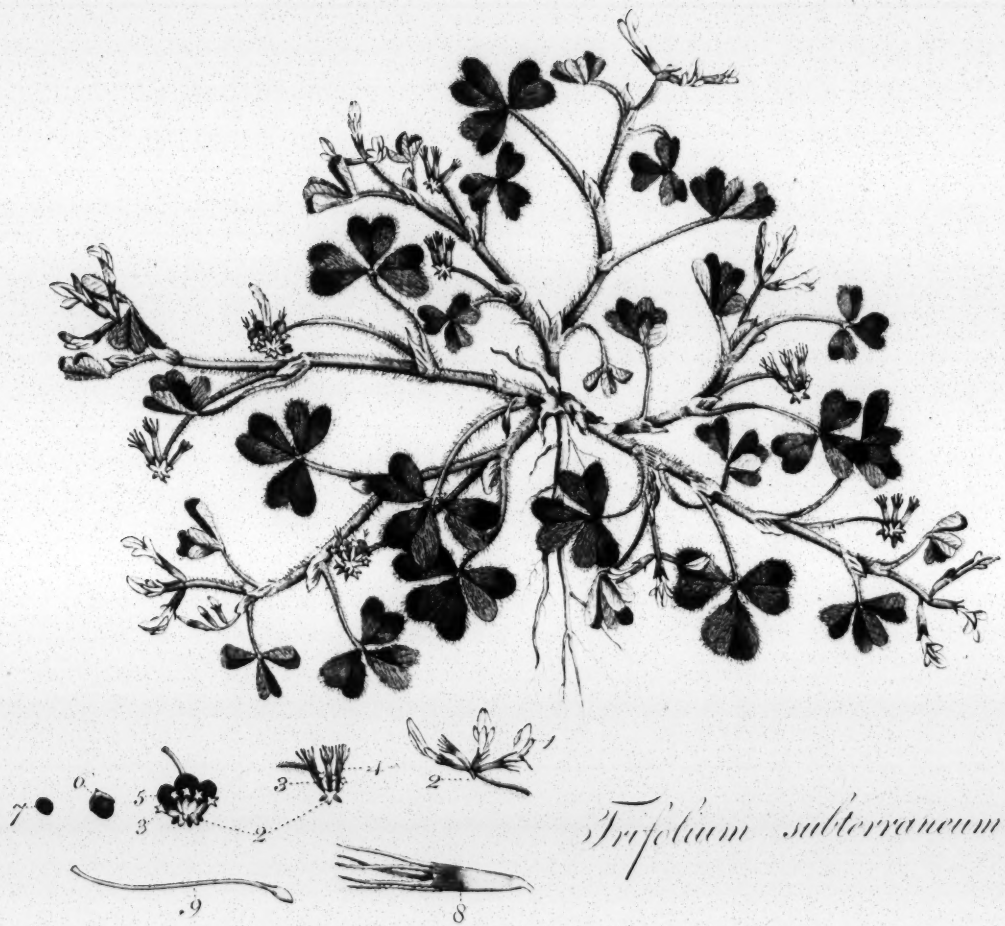
RAY has pointed out the leading features of this plant with his usual acumen; and VAILLANT, in his *Botan. Paris.* has given a good figure of it; the hairiness on the stalk is, however, somewhat too strongly expressed.

It differs from the *Trifolium glomeratum*, already figured (with which it has some affinity) in a variety of particulars; in the *glomeratum* the heads are round, in the *scabrum* they are ovate; in the *glomeratum* the whole plant is smooth, in the *scabrum* it is hairy; in the *glomeratum* the flowers are red, in this they are white; in the *glomeratum* the leaves are strongly toothed, here they are faintly so; there is a considerable difference also in the segments of the calyx, which deserves a particular attention, as the specific description of HALLER and LINNÆUS taken from this part are greatly at variance; the former describes them as straight (*rectis*) observing that they differ in that from those of the *glomeratum*; the latter describes them as bent back (*recurvis*); the fact is, when the plant is in flower, which is the period when it is generally supposed to be described, unless otherwise mentioned, the segments of the calyx are straight, or nearly so; when out of bloom they bend back, as VAILLANT has represented them; in the *glomeratum* they bend back at a more early period, and always are more evidently recurved.

From Mr. ADAMS, of Pembroke, we received seeds of this plant growing on the sea-coast, which he suspected to be different from ours; on culture, it proved the same, varying somewhat in superiority of size and roughness.





*Trifolium subterraneum*

TRIFOLIUM SUBTERRANEUM. SUBTERRANEOUS TREFOIL.

TRIFOLIUM *Linnaei Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *subterraneum* capitulis villosis subquinquefloris, coma centrali reflexa rigida fructum obvolvante. *Linnaei Syst. Vegetab. p. 572. Sp. Pl. p. 1080.*

TRIFOLIUM pumilum supinum, flosculis longis albis. *Ph. Brit. Raii Syn. p. 327. tab. XIII. fig. 2.*

TRIFOLIUM parvum Monspessulanum album cum paucis floribus. *I. Bauhin. II. 380.*

TRIFOLIUM album tricoccum subterraneum reticulatum. *Morison. Hist. Ox. II. 138. s. II. t. 14. f. 5.*

TRIFOLIUM *subterraneum* seu folliculos sub terram condens. *Magnol. Botan. Monsp. 265. Gouan Fl. Monsp. p. 198.*

Hudson. Fl. Angl. p. 286. ed. 2. p. 328.

RADIX annua, simplex, fibrosa.

CAULES teretes, crassiusculi, ramosi, procumbentes et terræ velut appressi, villosi.

STIPULÆ ovato-lanceolatae, nervosae.

PETIOLI pedunculis paulo longiores, dense pilosi.

FOLIA terna, obcordata, mollia, villosa, integerrima, maculis purpureis sæpe variegata.

PEDUNCULI triflori aut quadriflori, peractâ florescentiâ versus terram inflexi.

FLORES albi, longi, procul conspicui.

CALYX: PERIANTHIUM oblongum, tubulatum, superne rubrum, quinque-dentatum, dentibus fetaceis, pilosis, longitudine tubi, *fig. 8.* auct.

COROLLA oblonga, calyce duplo longior, alba: VEXILLUM venis dilute purpureis striatum: ALÆ conniventes, vexillo breviores: CARINA parva, brevis, alis inclusa, *fig. 1.*

PISTILLUM: GERMEN ovatum: STYLUS longus, tenuis, ascendens: STIGMA subrotundum, *fig. 9.*

PERICARPIUM: LEGUMEN subrotundum, monospermum, *fig. 6.*

SEMEN magnum, nitidum, spadiceum, *fig. 7.*

OBS. peractâ florescentiâ, pedunculi versus terram deflectuntur, et filamenta alba radiculis æmula extremitatibus suis exserunt, *fig. 2.* hæc vero terram nequaquam penetrant, at sursum eriguntur, mox apices stellatim expanduntur, *fig. 3.* et demum pericarpia obvolvunt, *fig. 5.*

ROOT annual, simple, and fibrous.

STALKS about three inches in length, frequently much longer, round, thickish, branched, procumbent, and as it were pressed to the ground, covered with soft hairs.

STIPULÆ oval, pointed, and ribbed.

LEAF-STALKS a little longer than the flower-stalks, and thickly covered with hairs.

LEAVES growing by threes, inversely heart-shaped, soft, villous, intire at the edges, and frequently variegated with purple spots.

FLOWER-STALKS supporting three or four flowers, and bending towards the earth as they decay.

FLOWERS white, long, and conspicuous at a distance.

CALYX: a PERIANTHIUM oblong, tubular, on the upper part red, having five long slender hairy teeth the length of the tube, *fig. 8.* mag.

COROLLA oblong, twice the length of the calyx, white: STANDARD striped with faint purple veins: WINGS closing, shorter than the standard: KEEL small, inclosed within the wings, *fig. 1.*

PISTILLUM: GERMEN oval: STYLE long, slender, ascending: STIGMA roundish, *fig. 9.*

SEED-VESSEL: a roundish Pod containing one seed, *fig. 6.*

SEED large, shining, of a purplish colour, *fig. 7.*

OBS. The flowering being over, the flower-stalks are bent towards the earth, and from their extremities put forth white filaments like roots, *fig. 2.* these do not however penetrate the earth, but rise upwards, their tips soon expanding into little stars, *fig. 3.* and finally inclose the seed-vessels, *fig. 5.*

NOTWITHSTANDING this plant appears to have obtained its name of *subterraneum* from a misapprehension of its oeconomy, we have chosen to retain it, rather than introduce confusion by altering a name so long established, especially as it has a tendency to excite an enquiry into the history of the plant.

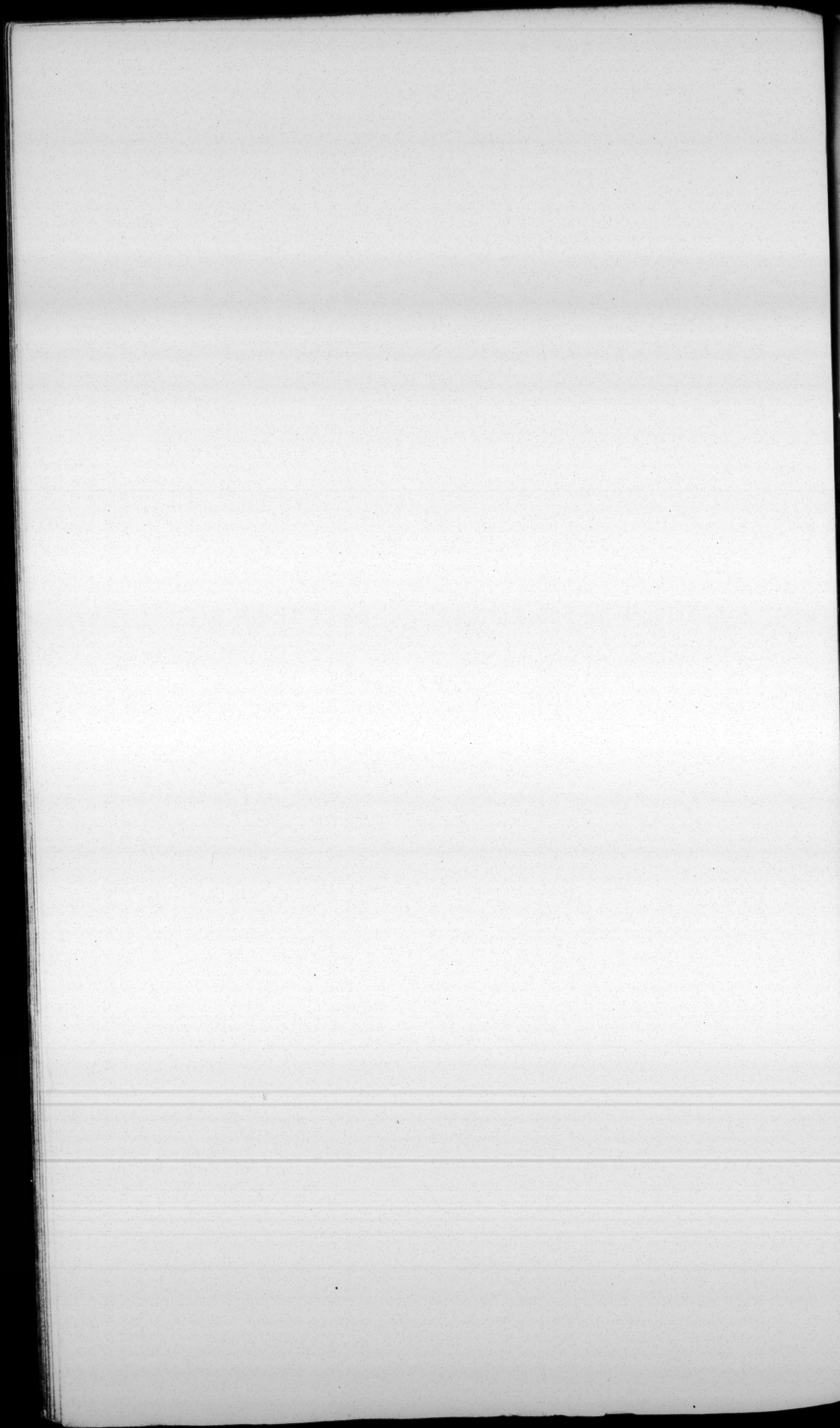
RAY, in his *Hist. Pl.* has given a very accurate description of this plant, and related every circumstance which takes place in its oeconomy with his usual precision, except the following; "Flosculis delapsis aut marcescentibus calices ad pediculum reflectuntur et capitula sub terra condunt." Here he asserts, that the capituli or little heads, are buried in the earth by means of the calyces or flower cups, but does not explain in what manner. In the third edition of his *Synopsis*, published by DILLENUS, in a note added to this plant, contained in a parenthesis, the following account occurs: "Calices flosculis exaridis deorsum tendunt, radicesque extremitatibus suis agere videntur, mox vero laciniis eorum sursum versis peculiaribus fibris humo affiguntur, quo tempore unum alterumve semen terreni humoris beneficio intumescit, novæque plantæ productioni inservit." Here is an attempt to account for the manner in which the heads are buried, founded however on a mistaken observation; for notwithstanding what authors have related, the seeds are not buried in any unusual way, nor is there any apparatus to effect it.

It must be allowed, that on the first examination of this plant, one would be tempted to think that young roots did actually spring from some part of the seed as it lay on the ground connected with the plant; but a more strict observation would discover, that those white filaments which have the appearance of roots, were not roots in reality; that they sprung from the end of the foot-stalk which supports the flowers, and not from either the calyx or seed; that instead of penetrating into the earth, they soon turned upward, put on a star-like appearance at their extremities, and finally inclosed the seed-vessels in a kind of prickly head.

There is certainly something very extraordinary in this process of nature, yet it does not appear to be useful in any other way, than as affording some kind of security to the seeds, which have not that thick coriaceous covering afforded to many of the Trefoils.

This species, from these singular circumstances, is easily distinguished from the others. It is not mentioned either by HALLER, SCOPOLI, or LINNÆUS in his *Fl. Suecic.* but occurs in GOUAN's *Fl. Monspeliac.*

It grows with us in exposed gravelly situations, particularly on heaths, and is distinguishable even at a distance by its white blossoms. It occurs on many parts of *Black-heath*; and flowers in June, July, and August.







Trifolium *Glomeratum*

TRIFOLIUM GLOMERATUM. ROUND-HEADED TREFOIL.

TRIFOLIUM *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *glomeratum* capitulis sessilibus hemisphæricis rigidis, calycibus striatis patulis æqualibus. *Lin. Syst. Vegetab. p. 573. Sp. Plant. p. 1084.*

TRIFOLIUM *arvense supinum verticillatum. Barr. ic. 882.*

TRIFOLIUM *parvum rectum, flore glomerato cum unguiculis. J. B. II. 378.*

TRIFOLIUM *cum glomerulis ad caulium nodos rotundis. Raii Syn. ed. 3. p. 329. Knotted Trefoil, with round heads. Hudson. Fl. Angl. ed. 2. p. 327.*

RADIX annua, simplex, fibrosa.

CAULES plures, palmares, procumbentes, teretes, purpurascentes, glabri, ramosi, geniculati, geniculis tumidiusculis.

STIPULÆ caulinae membranaceæ, acuminatæ, ramulorum apice sæpius recurvis.

FOLIA glabra, viridia, macula alba sæpius notata, minute ferrata.

FLORES glomerati, rubelli, axillares, capitulis sessilibus, hemisphæricis.

CALYX: PERIANTHIUM quinquedentatum, persistens, læve, striis decem coloratis notatum, dentibus ovato-acuminatis, patulis. *fig. 1.*

COROLLA longitudine calycis; vexillum sursum curvatum; alæ vexillo duplo breviores, apice paululum secedentes; carina longitudine fere alarum. *fig. 2.*

PERICARPIUM: LEGUMEN membranaceum, dispersum, intra calycem. *fig. 3.*

SEMINA minima, flavescentia. *fig. 4.*

ROOT annual, simple and fibrous.

STALKS several from the same root, four or six inches in length, procumbent, round, purplish, smooth, branched and jointed; the joints a little swelled.

STIPULÆ of the stalk membranous and pointed, those of the branches often bent back at top.

LEAVES smooth, green, often marked with a white spot, the edge finely sawed.

FLOWERS clustered, of a pink colour, growing in the axæ of the leaves, the little heads sessile, and almost globular.

CALYX: a PERIANTHIUM having five teeth, permanent, smooth, marked with ten coloured streaks, the teeth broad, pointed, and spreading. *fig. 1.*

COROLLA the length of the calyx; standard bent upwards; wings about half as long as the standard, separating a little at their extremities; keel almost the length of the wings. *fig. 2.*

SEED-VESSEL: a membranous Pod, containing two seeds within the calyx. *fig. 3.*

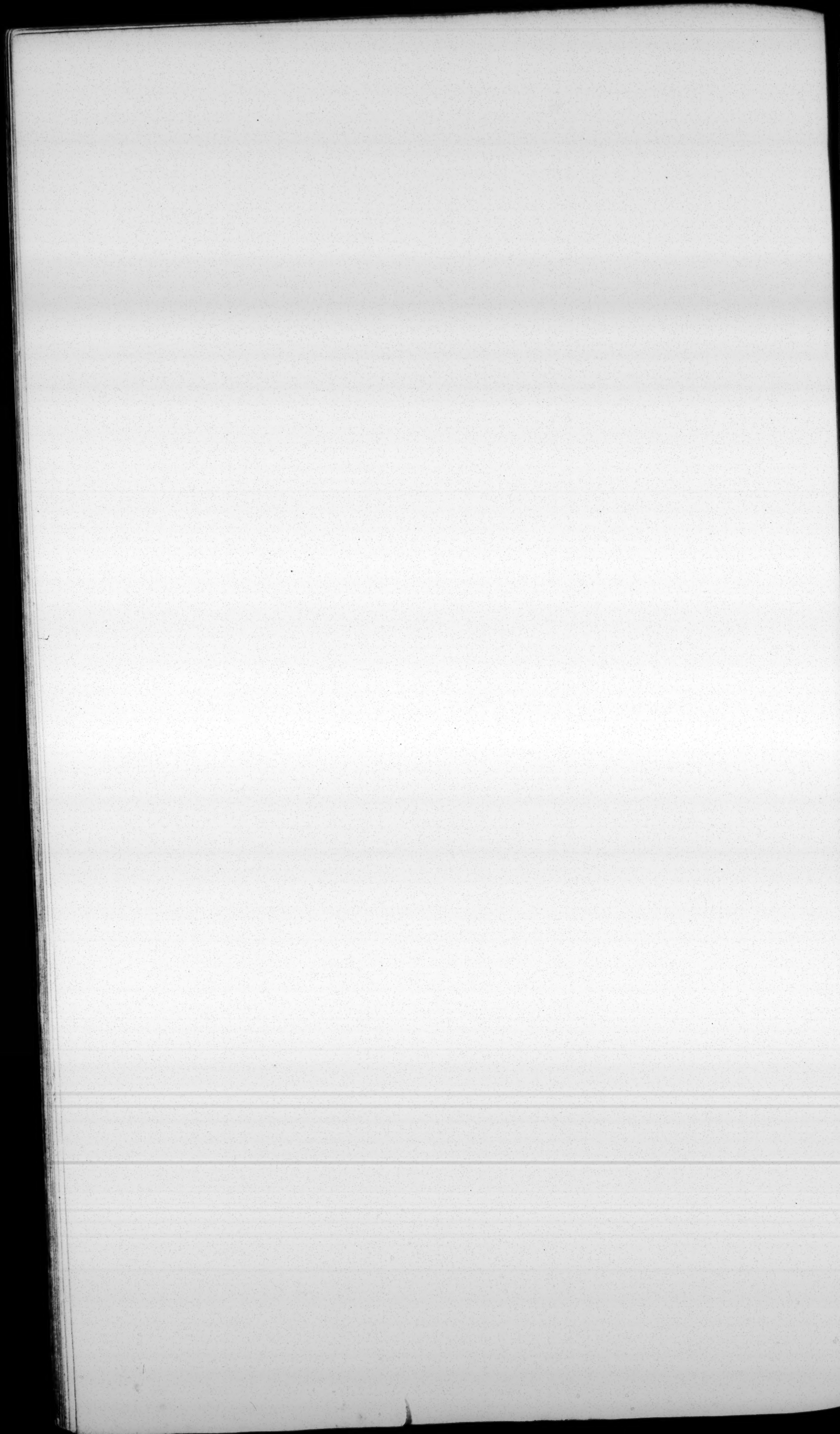
SEEDS very minute, and yellowish. *fig. 4.*

The blossoms of this species of *Trefoil* grow in little round balls or clusters from the axæ of the leaves, and hence it has received its name of *glomeratum*.

It may be distinguished from the *striatum*, to which it bears some affinity, by being in every part smooth, in having its balls much rounder, and the teeth of the calyx spreading backward; its blossoms also are of a brighter red colour.

Not being a plant which strikes the eye much at a distance, it is probably often overlooked; with us, however, it is certainly scarce. Mr. RAY found it about *Saxmundham* in *Suffolk*; Mr. DOODY about *Blackbeath*, and near *Greenhithe*; Mr. HUDSON in the *Isle of Shepey*; Mr. ROSE about *Norwich*, and Dr. GOODENOUGH on *Hanwell Heath*. I have found it on *Blackbeath* for several years, yet not plentifully; it is fond of a gravelly situation, with some degree of moisture; hence it must be looked for in the depressed parts of the heath. The plants growing near it were the *Trifolium striatum*, *ornithopodioides*, and *Sagina procumbens*; and at no great distance *Callitriche autumnalis*, *Montia fontana*, and *Peplis Portula*.

It flowers in June.





Trifolium agrarium

Trifolium agrarium

TRIFOLIUM AGRARIUM. HOP TREFOIL.

TRIFOLIUM *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. G n. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *agrarium* spicis ovalibus imbricatis: vexillis deflexis persistentibus, calycibus nudis, caule erecto. *Lin. Syst. Veg. p. 574. Sp. Pl. 1087. Fl. Suecic. 671.*

TRIFOLIUM spicis ovatis densissimis, strepentibus, caulibus diffusis. *Haller. hist. n. 363.*

TRIFOLIUM *agrarium. Scopoli Fl. Carn. n. 931.*

TRIFOLIUM pratense luteum capitulo Lupuli vel agrarium. *Baub. pin.*

TRIFOLIUM luteum minimum. *Ger. emac. 1186. Raii Syn. p. 330. Hop-Trefoil.*

Oeder. Fl. D. t. 558.

Hudson. Fl. Angl. ed. 2. p. 328.

Lightfoot. Fl. Scot. p. 409.

RADIX annua.

CAULIS palmaris aut dodrantalis, plerumque diffus, teres, villosus, ramosus, fruticulosus, saepe rubens.

STIPULÆ binæ, ovato-acuminatæ, striatæ.

FOLIA oblongo-cordata, plerumque nuda, nervosa, nervis plurimis, rectis, acute ferrata.

PETIOLI teretes, foliis ipsis paulo breviores.

PEDUNCULI erecti, nudi, petiolis multo longiores.

FLORES quadraginta circiter, imbricatum densissime glomerati, vix manifeste pedicellati, capituli majusculi, subrotundi, primum lutei, demum fuscii.

CALYX: PERIANTHIUM minimum, membranaceum, flavescens, a corolla ægre distinguendum, aut separandum, quinque-dentatum, dentibus duobus superioribus brevissimis, tribus inferioribus setaceis, pilosis, corolla brevioribus. *fig. 1.*

COROLLA calyce duplo longior, persistens, Vexillum suberectum, nervosum, margine ferratum, perfecta florentia magnitudine augetur, et deorsum flectitur; Alæ conniventes, vexillo breviores: Carina minima, intra alas, usque brevior. *fig. 2.*

PERICARPIUM: LEGUMEN corolla tectum, membranaceum, monospermum, parietibus tenuissimis, cito corrumpentibus, relicta tantum futura cum mucrone. *fig. 4.*

SEMEN unicum, nitidum, fuscum sive aurantiacum. *fig. 5.*

ROOT annual.

STALK from six to nine inches in length, generally spreading, round, villous, branched, a little hard or shrubby, often of a reddish colour.

STIPULÆ growing in pairs, oval, pointed, and striated

LEAVES of an oblong heart-shape, generally smooth, finely rib'd, the ribs strait, sharply sawed about the margin.

LEAF-STALKS round, and somewhat shorter than the leaves themselves.

FLOWER-STALKS upright, naked, much longer than the leaf stalks.

FLOWERS about forty, standing on very short foot-stalks, which are scarce perceptible, laying very close one over the other, and forming largeish heads of a roundish shape, which at first are yellow, and afterwards brown.

CALYX: a PERIANTHIUM very minute, membranous, yellowish, with difficulty distinguished or separated from the corolla, having five teeth, of which the two uppermost are very short, the three lowermost setaceous, hairy, and shorter than the corolla. *fig. 1.*

COROLLA twice the length of the calyx, permanent; Standard nearly upright, rib'd, the edge serrated, the flowering being over, it becomes encreased in size and turns back; Wings closing, shorter than the standard; Keel very small, within the wings and shorter than them. *fig. 2.*

SEED-VESSEL: a Pod covered with the corolla, membranous, containing one seed, the sides being very thin, soon decay, and leave nothing but the future with its point. *fig. 4.*

SEED single, shining, of a brown or orange colour. *fig. 5.*

The name of *Hop Trefoil* has been with much propriety bestowed on this plant, as the little heads formed by the flowers are larger and more resembling the hop than those of any of the other species.

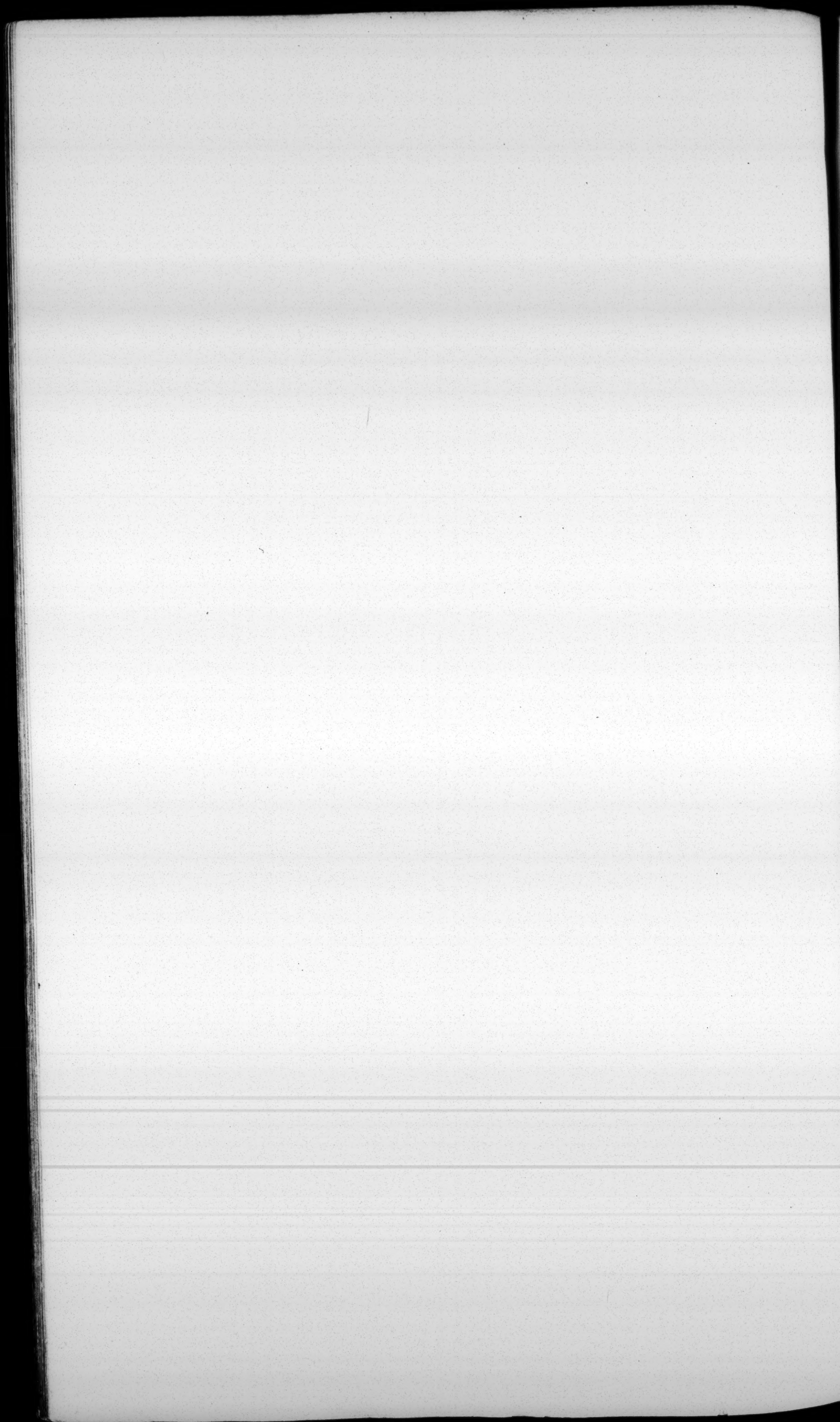
We are carefully to distinguish it from the *Trifolium procumbens*, than which it is in every respect larger, and less procumbent.

It is by no means an uncommon plant in dry pastures, on the borders of fields, and in gravelly soils; in some fields I have observed it naturally to form a considerable part of the Farmers crop, which though a small one was judged to make excellent fodder.

It is perhaps one of those plants which merits the further attention of the Husbandman.

June and July are the months in which it usually flowers.

SCOPOLI doubts, and apparently with great propriety, whether the *Trifolium spadicum* of LINNÆUS be a species distinct from this.







Trifolium fragiferum

TRIFOLIUM FRAGIFERUM STRAWBERRY TREFOIL.

TRIFOLIUM. *Linnaei Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longior, non dehiscens, deciduum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM fragiferum spicis subrotundis, calycibus inflatis bidentatis reflexis, caulibus repentibus.

Linnaei Syst. Vegetab. p. 574. Sp. Pl. p. 1086. Fl. Suecic. p. 26.

TRIFOLIUM caule repente; spicis glabris; calycibus sericeis, ampullascentibus. *Haller. hist. n. 370.*

TRIFOLIUM fragiferum *Scopoli Fl. Carniol. n. 933.*

TRIFOLIUM fragiferum frificum. *Baubin pin. 329.*

TRIFOLIUM fragiferum *Gerard. emac. 1208.*

Raii Syn. 329. Strawberry Trefoil.

Hudson Fl. Angl. p. 286.

RADIX perennis, simplex, alba, granulis obfita.

CAULES repentes, purpurascens, in longum extendi, ramosi, teretes, laeves.

STIPULÆ ovato-acuminatae, reticulatae.

PEDUNCULI solitarii, longi, teretes, laeves, erectiuculi.

CAPITULI floriferi parvi, subrotundi, Trifolii repentis æmuli, at minores, et magis purpurei; his succedunt Capituli fructiferi, rotundi, carnei, magnitudine nucis myristicæ parvæ, Fragariis mentientes.

FOLIA terna, petiolis hirsutulis infidentia, obovata, lævia, juniora vero leniter hirsuta, acute serrata, mucronata, venis ad marginem divaricantibus.

CALYX: INVOLUCRUM polyphyllum, foliolis setaceis, PERIANTHIUM tubulosum, villosum, supra gibbosum, quinque-dentatum, dentibus tribus inferioribus æqualibus acuminatis viridibus, duobus superioribus paulo longioribus, subulatis, rigidulis, apicibus rufis, *fig. 2. 3. 4.* pars gibbosa calycis demum mire mutatur, augetur, inflatur, reticulata fit, et pericarpium obtegit; dentes vero retinet. *fig. 8.*

COROLLA papilionacea, purpurea; VEXILLUM Alis longior, compressum, lineis roseis pictum; ALÆ breves, minimæ; CARINA Alis brevior; *fig. 2:* unusquisque flosculus palea concava, subulata, suffulcitur. *fig. 1.*

STAMINA ut in plerisque hujus generis; ANTHERÆ flavæ. *fig. 6.*

PISTILLUM: GERMEN ovatum: STYLUS longitudine flaminum: STIGMA capitatum. *fig. 7.*

PERICARPIUM: LEGUMEN ovatum compressum dispersum aut monospermum, calyce inflato obtegitur. *fig. 9. 10.*

SEMEN ovato-reniforme, nitidum. *fig. 11.*

ROOT perennial, white, beset with little grains.

STALKS creeping, purplish, extending to a considerable length, branched, round, and smooth.

STIPULÆ oval, with a long point, and reticulated.

FOOT-STALKS of the flowers, single, long, round, smooth, and nearly upright.

HEADS of the flowers small, roundish, like those of the Creeping or Dutch Clover, but smaller and more purple: to these succeed the heads containing the fruit, which are round, flesh coloured, the size of a small nutmeg, and very much resembling Strawberries.

LEAVES growing three together, sitting on foot-stalks, slightly hairy, inversely oval, smooth; the younger ones sometimes hairy, sharply serrated, and terminating in a short point; the veins divaricating at the margin.

CALYX: INVOLUCRUM consisting of many setaceous folioli or little leaves: PERIANTHIUM tubular, villose, gibbous above, having five teeth, the three lowermost of which are equal, with long green points, the two uppermost a little longer, with tapering rigid reddish points, *fig. 2. 3. 4.* the gibbous part of the calyx at length becomes wonderfully changed, increased, swollen, reticulated, and covers the pericarpium; still however retaining its teeth. *fig. 8.*

COROLLA papilionaceous, and of a purple colour; the VEXILLUM longer than the Alæ, flat and streaked with rose-coloured lines; the WINGS short and very small; the KEEL shorter than the Wings. *fig. 2.* each floscule is supported by a small, tapering, hollow leaf, or palea. *fig. 1.*

STAMINA like most of those in this genus: ANTHERÆ yellow. *fig. 6.*

PISTILLUM: GERMEN oval: STYLE the length of the Stamina: STIGMA forming a little head. *fig. 7.*

SEED-VESSEL: an oval, flatten'd Legumen, containing one or two seeds, and cover'd over with the inflated calyx. *fig. 9. 10.*

SEED of an oval kidney shape and shining. *fig. 11.*

The beautiful Strawberry like appearance of the capituli or little heads, containing the seed of this plant, and which arise from a very peculiar circumstance, the inflation or enlargement of the calyx after the blossom is over, in a very striking manner distinguishes this species from the *Trifolium repens*, to which in its general habit it is very nearly allied. It differs from the *repens* also in several other respects; the whole plant is smaller; the blossoms are of a more purple hue; its place of growth is also somewhat different: the *repens* seems to delight in a dry gravelly soil, the *fragiferum* on the contrary, most usually occurs in a moist situation; nor is it so common a plant as the *repens*; yet it abounds in many places about London. I have observed it plentifully in the lanes about *Hornsey*, also near *Pancras*, and in many other parts. It flowers and produces its seeds in August.

It may with great ease be cultivated in a Garden, if it should be thought worthy a place there.

HALLER quotes an Author, * who says, they have begun to cultivate it in Ireland for Cattle, and that when sown, it has grown to the length of seven feet: without controverting this fact, which borders a little on the incredible, we would observe, that the *Dutch Clover* is certainly a much stronger plant, and to be preferred in a dry situation; in moist situations, there are many of the Grasses which may be cultivated to far greater advantage, as neither of these Trefoils produce much of a crop 'till late in the Summer.

* BAKER Experim. p. 98.





Trifolium procumbens

TRIFOLIUM PROCUMBENS. PROCUMBENT TREFOIL.

TRIFOLIUM *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 24. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *procumbens* spicis ovalibus imbricatis: vexillis deflexis persistentibus, caulibus procumbentibus. *Linnaei Syst. Veg. p. 574. Sp. Pl. 1088. Fl. Suec. n. 673.*

TRIFOLIUM spicis strepentibus paucifloris, caulibus erectis. *Haller hist. 364.*

TRIFOLIUM luteum flore lupulino minus. *I. B. II. 381.*

TRIFOLIUM lupulinum alterum minus. *Raii Syn. p. 330. a. 17. The lesser Hop-Trefoil. Hudson. Fl. Angl. ed. 2. p. 328. Lightfoot Flor. Scot. p. 409.*

RADIX annua, fibrosa.

CAULES plures, spithamæi, pedales et ultra, teretes, duriusculi, pilis adpressis pubescentes, præsertim ad extremitates, purpurei, procumbentes, ramosi.

FOLIA terna, petiolata, remota, inferiora obcordata, superiora obovata, plerumque emarginata, ad apicem argute ferrata, plerumque lævia, venis rectis, simplicibus, utrinque impressis.

PETIOLI breves, longitudine stipularum.

STIPULÆ binæ, ovatæ, acutæ, quinquenerves, ad margines pilosæ, basi amplexicaules.

PEDUNCULI unciales circiter, pubescentes.

SPICÆ subrotundæ, multifloræ (raro infra octo, aut ultra viginti) laxius imbricatæ.

FLORES parvi, lutei, pedicellis brevissimis, insidentes.

CALYX: PERIANTHIUM quinquedentatum, persistens, subpilosum, dentibus tribus inferioribus longioribus, subulatis, *fig. 1.*

COROLLA papilionacea, persistens, marcescens, demum rufa, venis saturationibus striata, *fig. 2.*

PERICARPIUM: LEGUMEN ovatum, compressum, monospermum, deorsum reflexum, corollâ persistente inclusum, *fig. 3.*

ROOT annual and fibrous.

STALKS several, a span, or even a foot or more in length, round, hardish, downy, with hairs pressed close to the stalk, particularly at the extremities, purple, procumbent, and branched.

LEAVES growing three together, remotely, standing on foot-stalks, the lowermost obcordate, the uppermost obovate, for the most part emarginate, towards the top finely ferrated, commonly smooth, the veins straight, unbranched, impressed on each side of the leaf.

LEAF-STALKS short, the length of the stipulæ.

STIPULÆ growing in pairs, ovate, pointed, five-ribbed, edged with hairs, and at the base embracing the stalk.

FLOWER-STALKS about an inch in length and downy.

SPIKES roundish, many flowered, flowers seldom fewer than eight or more than twenty, loosely imbricated.

FLOWERS small and yellow, sitting on very short foot-stalks.

CALYX: a PERIANTHIUM with five teeth, permanent, and somewhat hairy, the three lowermost longer than the rest, and awl-shaped, *fig. 1.*

COROLLA papilionaceous, permanent, and withering, finally becoming of a reddish brown colour, and striped with veins of a deeper colour, *fig. 2.*

SEED-VESSEL an ovate, flat Pod, turning backward, inclosed in the corolla, which continues, and containing one seed, *fig. 3.*

The *Trifolium procumbens* is often found larger, but more frequently much smaller, than the specimen we have here figured. When it grows luxuriantly it bears a near resemblance to the *agrarium* already published: but in that species the spikes are not only much larger, but also much more closely imbricated, compared with the *procumbens* the *agrarium* may be considered with us at least as a scarce plant; while that is found only in certain spots, the *procumbens* is met with every where, there being scarcely a dry, hilly pasture, or grass plat, on which it may not be found. In its dwarf state it comes very near to the *filiforme* figured in *Ray's Synopsis, tab. 14. fig. 4.* Indeed it is very difficult to assign their respective limits; but both Mr. HUDSON and Mr. LIGHTFOOT agree in making the *filiforme* a distinct species; and the latter assures us, that culture proves them to be specifically different.

All the Trefoils are considered as affording excellent pasturage and fodder for cattle. The present species is, perhaps, not inferior to any of them in these respects; but the quantity it affords is so trifling, that it can scarcely be thought worth cultivating, especially as it is only an annual.

It flowers during the greatest part of the summer.

HALLER describes it as growing upright, which it never does with us, unless drawn up by surrounding herbage.

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Lotus corniculatus

LOTUS CORNICULATUS. BIRDS-FOOT TREFOIL.

LOTUS *Linnaei* Gen. Pl. DIADELPHIA DECANDRIA.

Legumen cylindricum, strictum. *Alae* fursum longitudinaliter conniventes.
Cal. tubulosus.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LOTUS *corniculatus* capitulis depresso, caulibus decumbentibus, leguminibus cylindricis patentibus.

Lin. Syst. Vegetab. p. 576.

LOTUS floribus umbellatis; filiquis cylindricis; rectissimis. *Haller. hist. helv.* p. 572. n. 3.

LOTUS *corniculatus*. *Scopoli Fl. Carniol.* p. 86.

LOTUS five melilotus pentaphyllos minor glabra. *Baubin Pin.* 332.

TRIFOLIUM filiquosum minus. *Gerard. emac.* 1191. *Raii Syn.* 334, Birds-foot Trefoil.

Hudson Flor. Angl. p. 288.

Lightfoot Flor. Scots. p. 411.

RADIX perennis, subfusiformis, in terram alte descendens.

CAULES plurimi, tenues, procumbentes, subquadrati, pedales, ramosi.

FOLIA terna, ovata, mucronata, foliolo medio basi angustata, glabra aut hirsutula.

STIPULÆ duæ, foliis quodammodo similes at magis latæ et acuminatæ.

FLORES subumbellati, ad 12, petiolis nudis longis insidentes.

CALYX: PERIANTHIUM tubulosum: infra medium annulo prominulo cinctum, quinquedentatum, dentibus setaceis, hirsutulis, duobus superioribus fursum tendentibus, tribus inferioribus reflexis, fig. 1.

COROLLA papilionacea, flava: VEXILLUM reflexum, superne aurantiacum, interne ad basin lineis octo circiter notatum: ALÆ duæ, flavæ, apicibus obtusis: CARINA inferne gibba, adscendens, acuminata, fig. 2.

STAMINA: FILAMENTA decem, novem in tubum coalita, simplici libero, apicibus omnium dilatatis, albis: ANTHERÆ parvæ, flavæ, fig. 3, 4, 5, 6.

PISTILLUM: GERMEN tenue, teretiusculum, incurvum: STYLUS adscendens, rectus: STIGMA minimum, fig. 7, 8, 9.

PERICARPIUM: LEGUMEN cylindricum, bivalve, isthmis quasi interceptum, more raphani, fig. 10.

SEMINA plurima, ultra xx, parva, subreniformia, maculata, fig. 11, 12.

ROOT perennial, tapering, striking deeply into the earth.

STALKS several, slender, procumbent, somewhat square, a foot in length, and branched.

LEAVES growing three together, ovate, terminating in a short point, the middle leaf narrowed at its base, smooth or slightly hirsute.

STIPULÆ two, in some degree like the leaves, but broader, and more pointed.

FLOWERS growing somewhat in the form of an umbell, to twelve, sitting on long foot-stalks.

CALYX: a PERIANTHIUM tubular, below the middle surrounded by a prominent ring, having five teeth, which are setaceous and a little hairy, the two uppermost rising upward, the three lowermost bending back, fig. 1.

COROLLA papilionaceous and yellow: the VEXILLUM turned back; on its upper part of an orange colour, underneath, at its base, marked with about eight lines: WINGS two, yellow and blunt at the tips: KEEL gibbous below, rising upwards, and pointed, fig. 2.

STAMINA: ten FILAMENTS, nine uniting in a tube; the single one loose; the tips of all of them dilated, and white: ANTHERÆ small and yellow, fig. 3, 4, 5, 6.

PISTILLUM: GERMEN slender, roundish, and bent downward: STYLE rising upwards, and straight: STIGMA very minute, fig. 7, 8, 9.

SEED-VESSEL: a cylindrical LEGUMEN of two valves, divided into a kind of cells, somewhat in the manner of the Radish, fig. 10.

SEEDS numerous, more than twenty, small, somewhat kidney-shaped, and spotted, fig. 11, 12.

THE following extract relative to this plant, is selected from the first volume of Mr. ANDERSON'S *Essays relating to Agriculture and rural affairs*, page 419.

While the practical remarks, and judicious hints, scattered through this performance, shew the author to be a man of real genius, and far superior to the common run of writers on these subjects, we cannot but regret, that a want of botanic knowledge pervades the whole, and in some degree, defeats the laudable design of the ingenious essayist. In no one plant, is this inaccuracy more observable than in the present, which we shall point out; hoping, that as the author has in some parts of his work, shewn himself well acquainted with chemical knowledge, some future edition may demonstrate, that he thought *Botany* equally worthy of his attention.

"MILK-VETCH, liquorice-vetch, or milk-wort, as it is differently called,—the **Astragalus glycyphyllos* of Hudson, is a plant common in every part of the island; although it has never yet, that I have heard of, been attempted to be cultivated."

"The general appearance of this humble plant, is, in some respects, very like that of the common white-clover; although its leaves upon a nearer examination are not exactly similar to them. From the top of the
"root

*It is very evident, from the whole tenor of the authors description, that he has given a wrong name to the plant he wished to recommend. The plant he describes, is the *Lotus corniculatus* of HUDSON, or *Birds-foot Trefoil*, and not the *Astragalus Glycyphyllos*, or *Liquorice-Vetch*, which is by no means a common plant.

“root there comes out in the spring a great number of small shoots that spread along the surface of the ground every way around it; from which arise a great many clusters of bright yellow flowers, exactly resembling those of common broom in shape, size and colour; which are succeeded by hard round pods, filled with small kidney-shaped seeds. And as three or four of these pods usually adhere to one foot-stalk, from which they spread open at the points, a little resembling the fingers of an open hand; they have from this circumstance been by the vulgar in some places called ladies-fingers; while others more struck with the resemblance that these pods bear to the foot of a bird, have distinguished it by the name of crow-toes; and others from the appearance of the blossom and the part where the plant is found, have called it *feal*, or by corruption *fell* broom. It is found plentifully almost every where in old grass-fields; but as every species of domestic animal eats it, almost in preference to every other plant, it is seldom allowed to come to flower in pasture grounds, unless where they have been accidentally saved from the cattle for some time; so that it is only about the borders of corn-fields, or the sides of inclosures to which cattle have not access, that we have an opportunity of observing it. As it has been imagined that the cows which feed on these pastures where this abounds, yield a great quantity of rich milk, the plant has from that circumstance obtained its most proper English name of milk-vetch.”

“But the circumstance that first recommended it to my notice, was the having observed that it grows and flourishes in poor barren ground where almost no other plant can be made to live. I have seen it in the midst of a barren moor, where the soil was so poor that even heath, or ling (*erica communis*) could hardly grow, and upon bare obdurate clays where no other plant could be made to vegetate; inasmuch that the surface remained entirely uncovered, unless where a plant of this kind chanced to be established; yet even in these unfavourable circumstances, it flourished with an uncommon degree of luxuriance, and yielded as tender and succulent, though not such abundant shoots, which assumed as fine a verdure as if they had been reared in the richest manured fields. I have likewise seen it in dry and barren sands, where almost no other plant could be made to live; and there also it sends out such a number of healthy shoots all round, as covers the earth with the closest and most beautiful carpet that can be desired.”

“The stalks of this plant, as has been said, are weak and slender, so that they spread upon the surface of the ground, unless they are supported by some other vegetable. In ordinary soils, they do not grow to a great length, nor produce a great many flowers,—branch out a good deal, but carry few or no flowers or seeds: and as I first took notice of it only on poor soils, it was purely with a view to pasture that I first resolved to cultivate it; and with this intention sowed it with my ordinary hay-seeds, expecting no material benefit from it till I desisted from cutting my field; but found myself agreeably disappointed, as it grew the first season as tall as my great clover, and formed the finest hay I ever saw; it being scarce distinguishable from Lucerne, but by the slenderness of the stalk and proportional smallness of the leaf.”

“It is nearly allied to Lucerne in its botanical characters; and resembles that valuable plant in many other respects. Like it, it is perennial,—sends down a long root to a great depth in the soil, which is at first small and gradually increases with age, till it at length becomes of a very considerable size; so that it is several years after it is first sowed before it attains its full perfection: but when it is once established, it probably remains there for a prodigious number of years in full vigour, and produces annually a great quantity of fodder. In autumn 1773, I cut the stalk from an old plant of it that grew in a very indifferent soil; and after having dried it thoroughly, found that it weighed fourteen ounces and a half. Like Lucerne, it is never affected with the severest droughts that we experience: but it does not resemble it in delicateness of constitution, as it thrives in the stiffest clays, and is able to stand its ground among grass or any other weeds.”

“As this plant only produces seeds in abundance upon poor hungry soils that could hardly afford nourishment to any other, and as the stalks spread out close upon the surface of the ground, it seems to me, that the greatest barrier to the cultivating thereof, will be the difficulty of obtaining the seeds in abundance; as in these circumstances they must always be gathered by the hand: but as it is an abiding plant, those who have such soils as most stand in need of having plants of this sort sowed upon them, may be at a little trouble and expence to get them once properly laid down with this grass, as it will be only once that they will need to do it. But it is possible, that future experience may discover some easier way of procuring the seeds than hath as yet occurred to me.

“The stalks of this plant die down entirely in winter, and do not come up in the spring till the same time that clover begins to advance; so that it can never be of use but as a summer pasture:—Neither does it advance very fast after it is cut down, or eat over even in summer.—But the great closeness of the shoots may probably counterbalance that defect.”

Whether this plant be deserving of the encomiums here bestowed on it, the practical farmer must determine. There appears no reason why feed might not be obtained from it, as well as from any of the other papilionaceous plants; and it should seem, that those sorts of land which are not rich enough to bear Clover and other strong growing plants, might be much improved by the introduction of the birds-foot Trefoil.

In wet and boggy situations this plant grows much taller and becomes very hairy.

The insect called by LINNÆUS *Thrips glauca*, sometimes renders the flowers tumid and monstrous. *Lightf. Fl. Scot.*





Medicago lupulina

MEDICAGO LUPULINA. HOP MEDICK.

MEDICAGO *Linnaei Gen. Pl.* DIADELPHIA DECANDRIA.

Legumen compressum, cochleatum. Carina corollae a vexillo deflectens.

Raii Syn. Gen. HERBAE FLORE PAPILIONACEO SEU LEGUMINOSAE.

MEDICAGO *lupulina* spicis ovalibus, leguminibus reniformibus monospermis, caulibus procumbentibus.

Linn. Syst. Vegetab. p. 577. Flor. Suecic. n. 678.

MEDICA caule diffuso, capitulis hemisphaericis, filiquis reniformibus. *Haller hist. No. 380. v. 1.*

MEDICA *lupulina. Scopoli Fl. Carniol. No. 940.*

TRIFOLIUM pratense luteum, capitulo brevior. *Baubin. pin. 328.*

TRIFOLIUM luteum lupulinum. *Gerard emac. 1186. Raii Syn. 331. Melilot Trefoil.*

TRIFOLIUM montanum lupulinum. *Parkinson 1105.*

Hudson. Fl. Angl. ed. 1. p. 282. ed. 2. p. 330.

Lightfoot. Fl. Scot.

RADIX biennis, fusiformis, paucis fibrillis instructa, profunde penetrans.

CAULES procumbentes, numerosi, pedales, subangulosi, hirsutuli, ramosi.

FOLIA terna, obcordata, aut obovata, obtusiusculè dentata, mucrone brevi latè terminata, mollia, pubescentia, averrà præcipue parte.

STIPULÆ duæ, ovato-lanceolatae, acuminatae, denticulatae.

SPICULÆ primum subrotundae, postea ovaes, apicibus subincurvatis, basi ad unum latus nudis.

CALYX: PERIANTHIUM monophyllum, subpilosum, quinquedentatum, dentibus inæqualibus, tribus inferioribus longioribus, duobus superioribus brevioribus, remotis.

COROLLA lutea, parva, Calyce longior; VEXILLUM reflexum, emarginatum, inferne patens; ALÆ et CARINÆ minimae, subæquales.

STAMINA: FILAMENTA connexa: ANTHERÆ luteae.

PISTILLUM: GERMEN subovatum compressum: STYLUS longitudine Stamini, crassum, fursum curvatum: STIGMA capitatum.

PERICARPIUM: LEGUMEN reniforme, compressum, rugosum, nigrum, spiraliter cochleatum, subvillosum, *fig. 1.*

SEMEN unicum, ovatum, læve, flavescens, *fig. 2.*

ROOT biennial, tapering, furnished with few fibres, and penetrating deep into the earth.

STALKS procumbent, numerous, about a foot long, somewhat angular, slightly hairy, and branched.

LEAVES growing three together, inversely heart or egg-shaped, somewhat bluntly indented, terminated by a broad short point, soft, pubescent, particularly on the under side.

STIPULÆ two, ovato-lanceolate, acuminated, notched with little teeth.

SPICULÆ, first roundish, afterwards oval, the tips somewhat incurvated, and naked at bottom on one side.

CALYX a PERIANTHIUM of one leaf, somewhat hairy, having five teeth, which are unequal; the three lowermost longest; the two upper ones shorter, and remote from each other.

COROLLA yellow, small, longer than the Calyx: STANDARD turning back, with a slight notch, spreading below: WINGS and KEEL very small, and bending below.

STAMINA connected by the FILAMENTS: ANTHERÆ yellow.

PISTILLUM: GERMEN somewhat oval and flat: STYLE the length of the Stamina, thick, and bending upwards: STIGMA forming a little head.

SEED-VESSEL: a kidney-shaped LEGUMEN, flat, wrinkled, of a black colour, spirally twisted, and slightly villous, *fig. 1.*

SEED single, oval, smooth, and of a yellowish colour, *fig. 2.*

MANY of our *Trefoils* bear a considerable affinity to each other, and the present plant is often confounded with some of them: but similar as it may be in its leaves, its parts of fructification will always direct the student aright in his investigation of it; its seed-vessels in particular, being totally different from those of the *Trefoils*. *vid. fig. 1, 2.*

The leaves and stalks of this plant are frequently more hairy than those *Trefoils* for which it is liable to be mistaken, except the *subterraneum*, which is usually smaller; and in general the more barren the soil in which this plant grows, the more downy does it appear: by culture it grows much larger and becomes smoother.

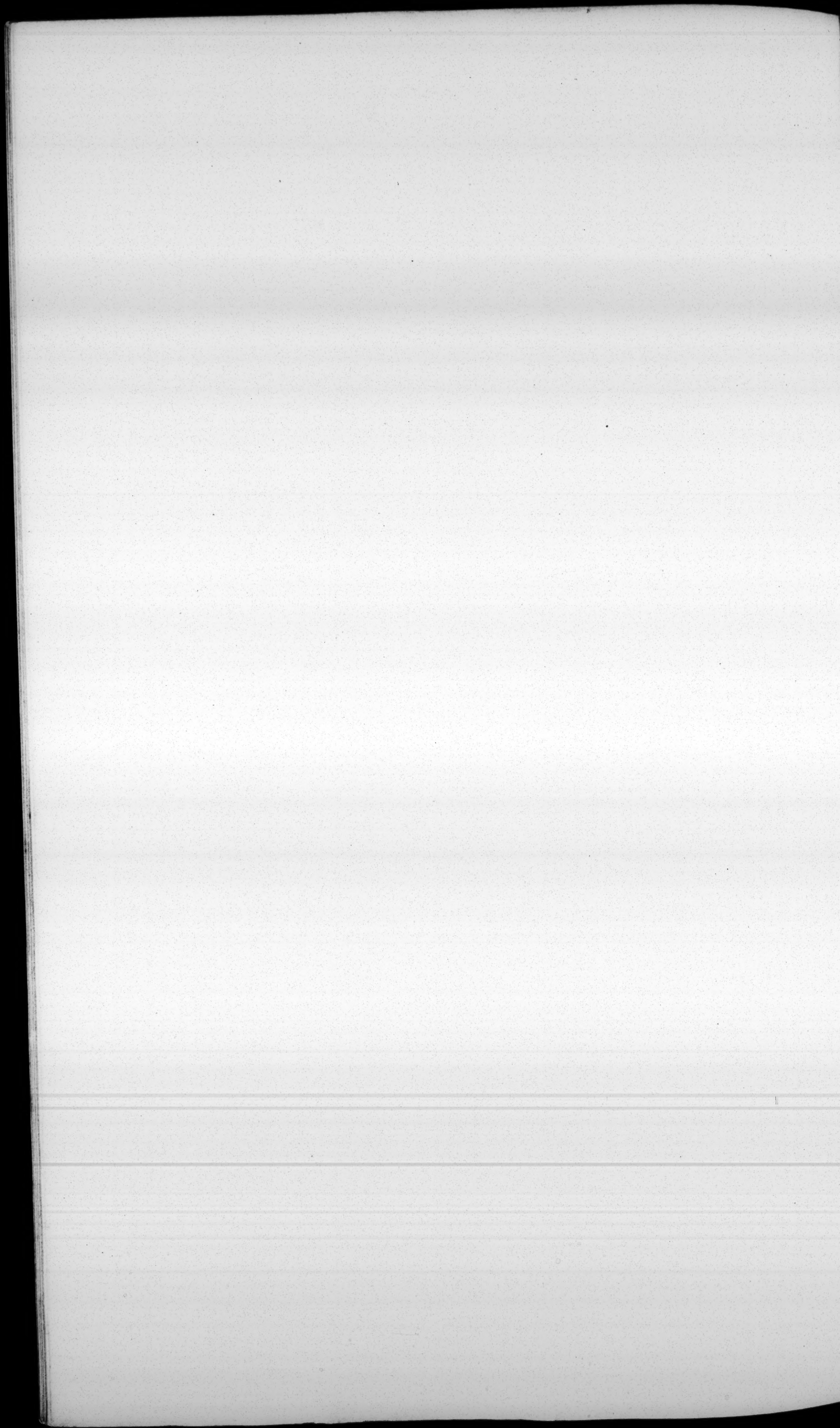
Its flowers are smaller and more closely compacted than those of the *Trifolium agrarium* and *procumbens*, to both of which it bears a great similarity; nor are the spikes so exactly round as in those plants, but usually of an oval, or oblong shape, particularly when somewhat advanced; and when the seeds are ripe, the plant is distinguished at first sight, by its black seed-vessels.

The *Hop Medick* has of late years, been much cultivated in different parts of the kingdom; and in different counties, it has been distinguished by different names, as those of *Trefoil*, *Black Seed*, and *Non-such*.

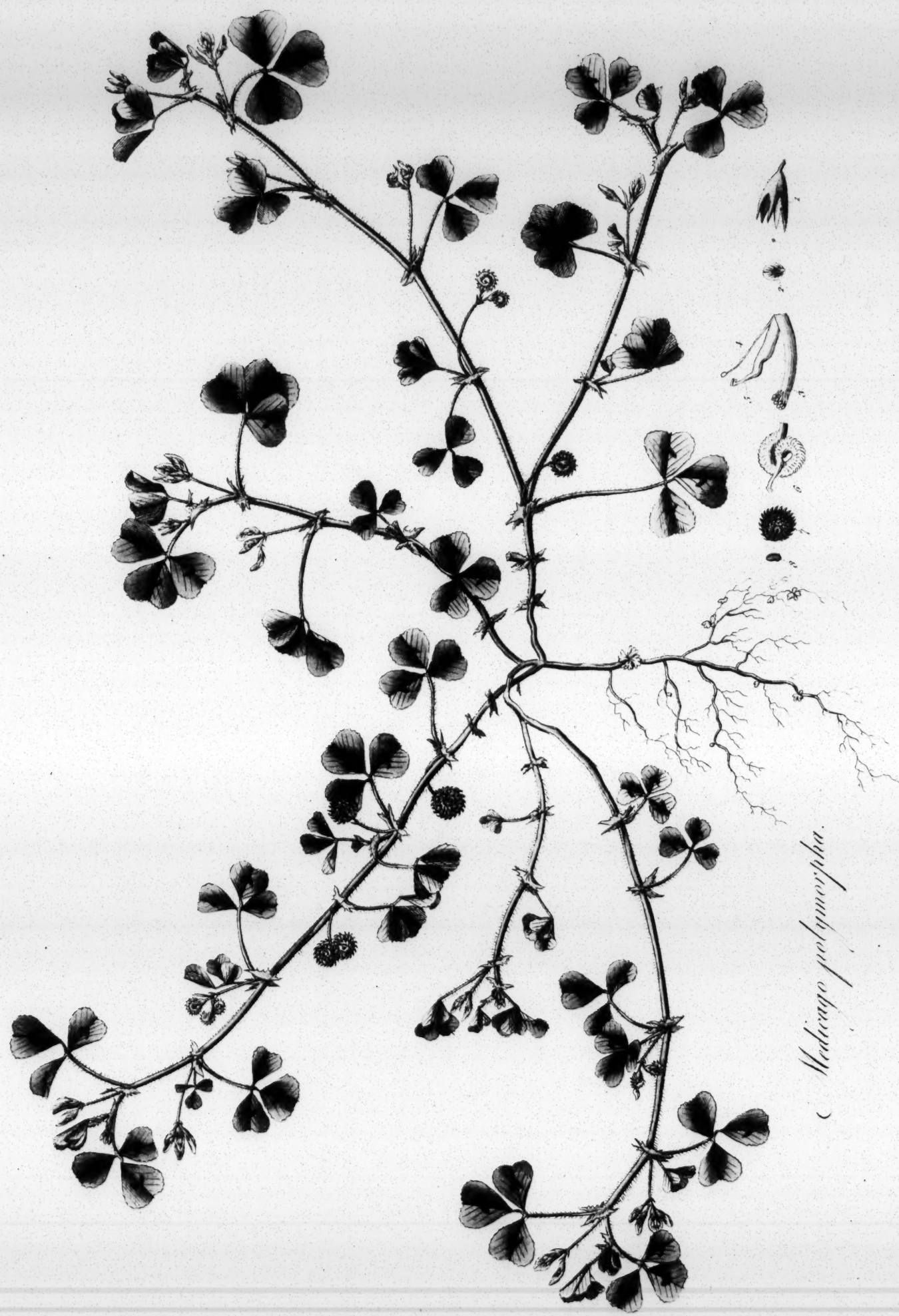
As the name of *Trefoil* tends to confound this plant with the true *Trefoils*, or GENUS *Trifolium*, I have ventured to call it *Hop Medick*, there being already a plant called *Hop Trefoil*, viz. *Trifolium agrarium*, which though not at present in culture, may perhaps be introduced at some future period.

The *Hop Medick* is often sown by itself, and often with *Ray Grass*; and though it does not produce so large a crop as the *Broad-leaved Clover*, it is supposed to afford a sweeter one, and a food particularly adapted to Sheep.

Its natural situation is a dry one, and its soil sandy, hence we find it wild on dry banks and on hilly pastures, flowering in June and July. Its seed is ripe in August.







Medicago polymorpha.

MEDICAGO ARABICA. HEART MEDICK, or CLAVER.

MEDICAGO *Lin. Gen. Pl. DIADELPHIA DECANDRIA. Legumen compressum, cochleatum, Carina corollæ a vexillo deflectens.*

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

MEDICAGO *polymorpha* leguminibus cochleatis, stipulis dentatis caule diffuso. *Lin. Syst. Vegetab. p. 577. Sp. pl. 1097.*

MEDICA foliis emarginatis, ferratis, racemis paucifloris, filiquis globosis echinatis. *Haller. hist. n. 383.*

MEDICAGO *polymorpha. Scopoli Fl. Carn. n. 942.*

TRIFOLIUM cochleatum folio cordato maculato. *Baubin. pin. 329.*

TRIFOLIUM cordatum *Ger. emac. 1190. Park. 1115. Raii Syn. 333. Heart Trefoil or Claver. Hudson. Fl. Angl. ed. 2. p. 331.*

RADIX annua, fibrosa.

CAULES plures, pedales, et ultra, procumbentes, angulati, striati, purpurascens, pilosi, ramosi.

FOLIA terna, obcordata, mucronata, obsolete ferrata, laevia, macula purpurea in medio notata.

PETIOLI superne canaliculati, pilosi.

STIPULÆ binæ, semitagittatæ, ferratæ.

FLORES plerumque bini, pedicellati, pedunculis teretibus, pilosis, petiolis brevioribus; *Bractæa* minima, ad basin cujusvis pedicelli, et seta pilosa inter flosculos longitudine florum.

CALYX: PERIANTHIUM monophyllum, tubulosum, subcampanulatum, pilosum, semiquinquefidum, laciniis acuminatis, subæqualibus, purpurascens. *fig. 1.*

COROLLA papilionacea, flava; *Vexillum* subrotundum, emarginatum, reflexum, lineis saturate flavis ad basin notatum. *fig. 2. Alæ* duæ, parvæ, vexillo breviores, crocæ, apice paulo secedentes. *Carina* concava, obtusa, alis paulo longior.

STAMINA: FILAMENTA diadelphea, coalita fere ad apices, tubus sursum curvatus; ANTHERÆ minimæ, flavæ. *fig. 3. 4.*

PISTILLUM: GERMEN viride, oblongum, subtus ubi stylus incipit emarginatum, cito sese spiritaliter contorquens, et superne spinulas agens; STYLUS subulatus, erectus; STIGMA terminale, minimum. *fig. 5. 6.*

PERICARPIUM: *Legumen* subrotundo-cylindraceum, utrinque truncatum, spinulosum, spiraliter contortum. *fig. 7.*

SEMEN majusculum, reniforme, flavescens. *fig. 8.*

ROOT annual and fibrous.

STALKS numerous, about a foot in length, or more, procumbent, angular, striated, purplish, hairy, and branched.

LEAVES growing three together, inversely heart-shaped, terminated by a short point, faintly sawed, smooth, with a purple spot in the middle of each.

LEAF-STALKS above grooved and hairy.

STIPULÆ two, the shape of half an arrow, and ferrated.

FLOWERS growing generally two together, standing on footstalks which are round, hairy, and shorter than the footstalks; *Bractæa* very small, at the base of each flower-stalk, and a hairy seta or bristle betwixt the flowers of the same length with the flowers.

CALYX: a PERIANTHIUM of one leaf, tubular, somewhat bell-shaped, hairy, divided half way down in five segments, which are pointed, nearly equal and purplish. *fig. 1.*

COROLLA papilionaceous, and yellow; *Standard* roundish, notched at the end, and turning back, marked at its base with lines of a deeper yellow colour. *fig. 2. Wings* two, small, shorter than the standard, saffron coloured, separating a little from one another at the tips. *Keel* hollow, blunt, a little longer than the wings. *fig.*

STAMINA: FILAMENTS uniting into two bodies almost to the tips, tube bending upward; ANTHERÆ very minute and yellow. *fig. 3. 4.*

PISTILLUM: GERMEN green, oblong, below where the style begins notched, soon spirally twisting itself, and from its upper part throwing out little spines; STYLE tapering, upright; STIGMA terminal, and very minute. *fig. 5. 6.*

SEED-VESSEL: a *Pod* of a roundish cylindrical shape, cut off at each end, spinous, and spirally twisted up. *fig. 7.*

SEED rather large, kidney-shaped, and yellowish. *fig. 8.*

The plant here figured is intended to represent the *Trifolium cochleatum folio cordato maculato* of BAUHINE and RAY and the *Medicago polymorpha var. arabica* of LINNÆUS; how far it is in itself a variety, how far LINNÆUS and some other authors are justified in making so many varieties of one species*, or how far others are right in dividing one genus into so many species especially MONSIEUR GERARD, it would ill become me to determine, this plant and this only of the present tribe as far as I have hitherto seen is common in the neighbourhood of London; future observation added to culture may perhaps enable me hereafter to speak more decidedly on the subject.

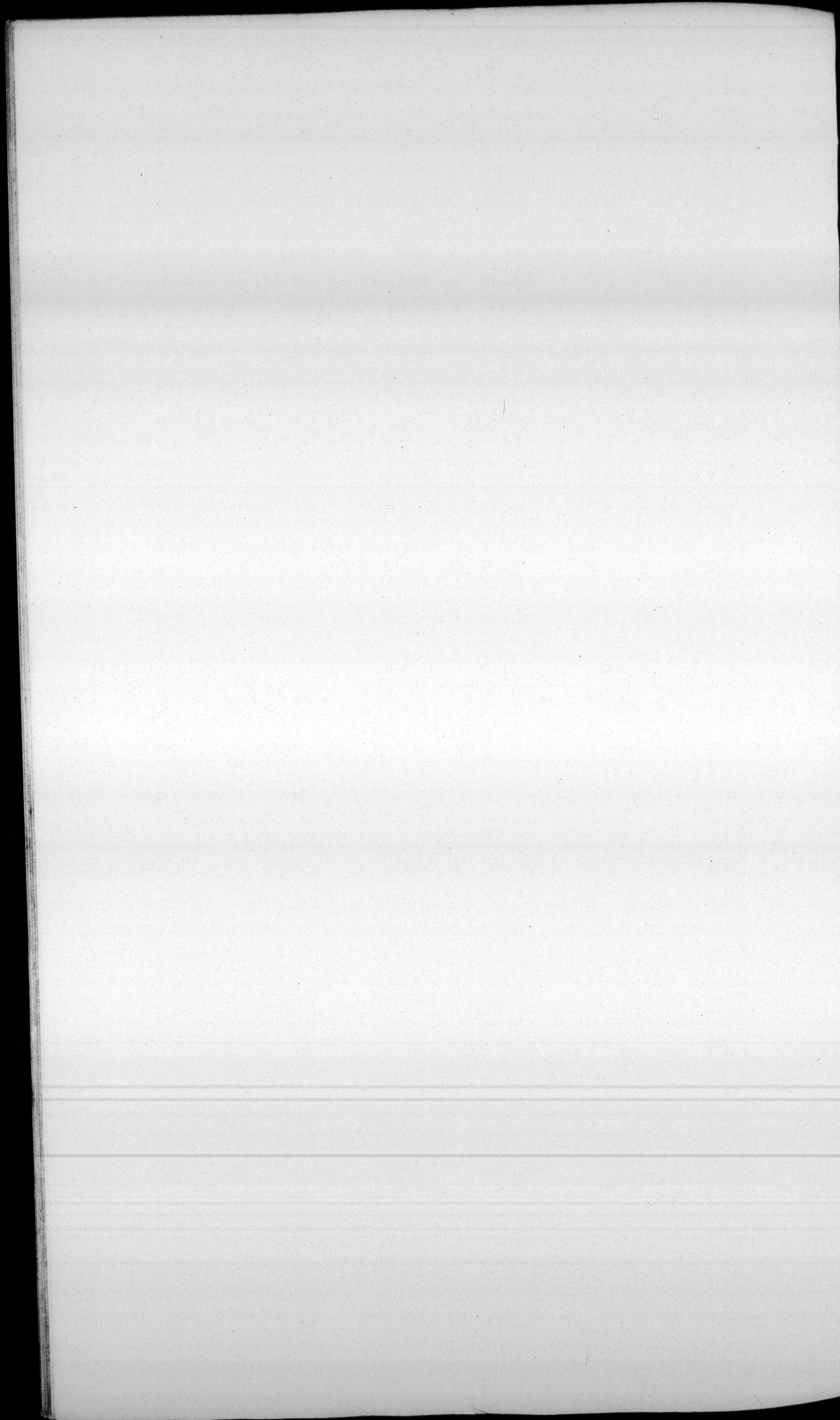
The present plant is subject to considerable variation in size as also with respect to the brightness of the spots on its leaves.

It flowers in May and June.

On the edges of Charlton Sand-pits it grows in very great plenty and is not uncommon on banks and the borders of fields in a variety of other places.

When it grows luxuriantly one is tempted to suppose that it wou'd afford good fodder for cattle, it seems at least to deserve a trial.

* *As the obicularis, scutellata, ternata, turbinata, intertexta, arabica, coronata, ciliaris, bisfuta, rigidula, minima, muricata, nigra, laciniata. Linnæi Syst. Vegetab. p. 578.*





*Hypericum**Androsæmum.*

HYPERICUM ANDROSÆMUM. TUTSAN.

HYPERICUM *Lin. Gen. Pl.* POLYADELPHIA POLYANDRIA

Cal. 5. *partitus*, *Petala* 5. *Filamenta* multa, in 5 phalanges basi connata, *Capsula*.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

HYPERICUM *Androsæmum* floribus trigynis, fructibus baccatis, caule fruticoso ancipiti. *Lin. Syst.*

Vegetab. p. 583. *Sp. Pl.* p. 1102.

ANDROSÆMUM maximum frutescens. *B. Pin.* 280.

ANDROSÆMUM vulgare. *Park.* 575.

CLYMENUM Italarum. *Ger. emac.* 548.

HYPERICUM maximum Androsæmum vulgare dictum. *Raii Syn.* Tutsan or Park-leaves.

Hudson Fl. Angl. ed. 2. p. 332.

Lightfoot Fl. Scot. p. 415.

RADIX perennis, crassa, lignosa, rubens, fibras longissimas emittens.

CAULES suffruticosi, ancipites, bipedales et ultra, ramosi, rubentes, glabri.

FOLIA opposita, sessilia, ovata, integerrima, lævia, inferne pallidiora, venis plurimis parum exstantibus reticulata, per ætatem rubicunda, inferioribus plerumque minoribus.

FLORES flavi, pro ratione plantæ parvi, in Cyma variè divisa dispositi.

CALYX: PERIANTHIUM quinquepartitum, laciniis ovatis, obtusis, subnervosis, inæqualibus, erectis, demum reflexis.

COROLLA: PETALA quinque, ovata, obtusa, subæquali, calyce paulo longiora, patentia, concaviuscula, apicibus paululum inflexis, decidua.

STAMINA: FILAMENTA plurima, ultra quadraginta, corollâ longiora; ANTHERÆ parvæ, subrotundæ.

PISTILLUM: GERMEN subrotundum, nitidum, flavescens; STYLI tres, longitudine germinis, erecti; STIGMATA parva, rotundata.

PERICARPIUM: CAPSULA ovato-rotundata, primo baccæformis, e flavo virescens, dein ruberrima, demum nigricans, exsucca, trilocularis, feminibus plurimis minimis referta.

ROOT perennial, thick, woody, of a reddish colour, sending out very long fibres.

STALKS somewhat shrubby, slightly winged, two feet high and upward, branched, of a reddish colour and smooth.

LEAVES opposite, sessile, ovate, entire, smooth, paler on the under side, reticulated with numerous veins which project but little, becoming through age of a reddish or purple colour, the lowermost generally the least.

FLOWERS of a yellowish colour, small for the size of the plant, disposed in a Cyma variously divided.

CALYX: a PERIANTHIUM deeply divided into five segments, which are ovate, obtuse, somewhat rib'd, unequal, upright, finally turned back.

COROLLA: five PETALS, ovate, obtuse, nearly equal, a little longer than the calyx, spreading, somewhat hollow, the tips bending a little inward, deciduous.

STAMINA: FILAMENTS numerous, more than forty, longer than the corolla; ANTHERÆ small and roundish.

PISTILLUM: GERMEN roundish, shining, yellowish; STYLES three, the length of the germen, upright; STIGMATA, small and roundish.

SEED-VESSEL; a CAPSULE of a roundish egg-shape, at first assuming the appearance of a berry of a yellowish green colour, afterwards of a bright red colour, lastly blackish, having three cavities which are filled with numerous small seeds.

The French call this plant *Toute saine*, *Allbeal*, (*vide Tourn. Hist. des Pl.*) whence as PARKINSON observes, we have evidently borrowed our English name of *Tutsan*. They appear to have been equally fond of attributing vulnerary qualities to plants as our countryman GERARD, but perhaps on no better grounds, the *Tutsan* and the *Allbeal* being now equally neglected. Its other name of *Park-leaves*, by which it is less frequently called, it has doubtless acquired from being commonly found in Parks.

We may remark of the *Androsæmum*, that neither HALLER, LINNÆUS, JACQUIN, SCOPOLI, or CÆDER enumerate it in their respective Floras.

In many parts of *England* it is by no means an uncommon plant; it is chiefly found in or near Woods. About London all our *Hypericums* abound more than this, which I have met with in one wood only, viz. the *Oak of Honour Wood*, near *Peckham Rye*, adjoining *Norwood*. It flowers in July and August, and ripens its seed-vessels, which have much the appearance of berries in September.

It is not uncommon in Gardens.







Hypericum humifusum

HYPERICUM HUMIFUSUM. TRAILING ST. JOHN'S WORT.

HYPERICUM *Linnaei. Gen. Pl. POLYADELPHIA POLYANDRIA.*

Cal. 5. partitus. Petala 5, Filamenta multa, in 5. phalanges basi connata, Capsula.

Raii. Syn. Gen. 24 HERBÆ PENTAPETALÆ VASCULIFERÆ.

HYPERICUM humifusum floribus trigynis axillaribus, solitariis, caulibus ancipitibus prostratis filiformibus, foliis glabris. *Lin. Syst. Vegetab. p. 332. Sp. Pl. 1105. Fl. Suecic. 681.*

HYPERICUM caule prostrato, foliis ovatis, calycibus ferratis punctatis. *Haller. hist. p. 5. n. 1039.*

HYPERICUM minus supinum vel supinum glabrum. *C. Bauh. pin. 279.*

HYPERICUM minus supinum. *Park. 572.*

HYPERICUM supinum glabrum. *Ger. emac. 541. Raii. Syn. p. 342. the least trailing St. Johns Wort.*

Hudson. Fl. Angl. ed. 2. p. 332.

Lightfoot. Fl. Scot. p. 418.

RADIX perennis, lutescens, fibrosa.

CAULES plures ex eadem radice, spithamæ, procumbentes, teretes, vix manifeste ancipites, læves, rubentes, summitate ramosi.

FOLIA opposita, oblongo ovata, obtusa, glabra, integerrima, margine punctis nigris notata.

CALYX: PERIANTHIUM quinquepartitum, laciniis magnis, inæqualibus, ovato oblongis, margine reflexis et glandulis ferrato punctatis, mucrone rufo terminatis. *fig. 1.*

COROLLA: PETALA quinque, oblonga, flava, obtusa, calyce paulo longiora, margine glandulis punctata. *fig. 2.*

STAMINA: FILAMENTA raro ultra viginti, in tres phalanges distincte divisa; ANTHERÆ minimæ, flavæ. *fig. 3.*

PISTILLUM: GERMEN subrotundum, STYLI tres, simplices, distantes, longitudine staminum; STIGMATA simplicia. *fig. 4.*

PERICARPIUM: CAPSULA oblongo ovata, membranacea, trilocularis, immatura ruberrima.

SEMINA plurima, minima.

ROOT perennial, of a yellowish colour and fibrous.

STALKS several from the same root, about half a foot in length, procumbent, round, scarce perceptibly two edged, smooth, of a reddish colour and branched at top.

LEAVES opposite, oblong, oval, obtuse, smooth, entire, dotted on the edge with black.

CALYX a PERIANTHIUM divided into five segments, which are large, unequal, oval, oblong, the edge turned back and sawed as it were with black glands, terminating in a red point. *f. 1.*

COROLLA: five oblong yellow PETALS, blunt at the end, a little longer than the calyx, and dotted on the edge with glands. *fig. 2.*

STAMINA: FILAMENTS seldom more than twenty, distinctly divided into three bodies; ANTHERÆ very small and yellow. *fig. 3.*

PISTILLUM: GERMEN roundish; STYLES three, simple, spreading, the length of the stamens; STIGMATA simple. *fig. 4.*

SEED-VESSEL an oblong oval Capsule, membranous, of three cavities, of a very bright red colour before it is ripe.

SEEDS numerous and very minute.

THIS is the least of all our *Hypericums*, but scarcely inferior to any of them in beauty and delicacy.

It grows frequent enough, in gravelly pastures, in fields that have long lain fallow, and likewise on heaths, especially where the soil is moist and clayey.

It flowers in June, July, and August.

SCOPOLI without any good grounds, suspects it to be a monstrous variety of the *Hypericum perforatum*, from which it differs almost as much as it is possible for one species to differ from another.







Hypericum pulchrum.



Willd. gen. et spec.

HYPERICUM PULCHRUM. Small Upright St. JOHN'S WORT.

HYPERICUM *Linnaei Gen. Pl.* POLYADELPHIA POLYANDRIA.

Raii Synop. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

HYPERICUM floribus trigynis ; calycibus ferrato-glandulosis, caule tereti, foliis perfoliatis glabris. *Lin. Sp. Pl.* 1106.

HYPERICUM pulchrum Tragi. *J. Baubin. Hist.* III. 183. *Raii Synop.* 342.

HYPERICUM minus, erectum. *Baubin. Pin.* 279.

HYPERICUM foliis amplexicaulibus, cordatis, calycibus ovatis, ferratis, glanduligeris. *Haller. Hist. n.* 1041.

Gerard. emac. 540. *Hudson. Fl. Angl.* 290. *Oeder. Flor. Dan. Icon.* 75.

RADIX perennis.

CAULIS pedalis ad bipedalem, erectus, *teres, fig. 1.* glaber, subramosus, geniculi distantes.

RAMI oppositi, breves, tenues, cauli similes.

PEDUNCULI teretes, plerumque triflori.

FOLIA CAULIS cordato-triangularia, glaberrima, amplexicaulia, saturate viridia, patentia, quam in cæteris Hypericis solidiora, versus marginem perforata, inferiora frequenter coccinea, RAMORUM ovata, caulis triplo minora, PEDUNCULORUM ovato-lanceolata.

CALYX. PERIANTHIUM quinquepartitum, LACINIIS ovatis, acutis, striatis, margine ferratis, *dentibus glanduliferis, glandulis nigro rufis, fig. 2.*

COROLLA. PETALA quinque, oblongo-ovata, flava, contorta, leviter striata, subtus aurantiaco lineata, margine subferrata et glandulis cincta, *fig. 3.*

STAMINA FILAMENTA triginta sex, filiformia, in tres fasciculos ad basin coalita, in singulo fasciculo duodecim ; ANTHERÆ biloculares, subrotundæ. POLLEN minaceum, *fig. 4.*

PISTILLUM. GERMEN ovatum, STYLI tres, longitudine germinis, divaricantes, STIGMATA parva, subrotunda, *fig. 5.*

PERICARPIUM. CAPSULA subconica, trilocularis, fusca, *fig. 6, 7.*

SEMINA plurima, oblonga, fusca, *fig. 8.*

ROOT perennial.

STALK from one to two feet high, upright, round, *fig. 1.* smooth, and thinly branched, the joints remote from each other.

BRANCHES opposite, short, slender and like the stalk.

PEDUNCLES round, generally sustaining three flowers.

LEAVES of the STALK triangularly heart-shaped, smooth, shining, embracing the stalk, nearly horizontal, of a deep green colour, more solid to the touch than the other St. John's Worts, perforated near the edge, and frequently of a bright red colour towards the bottom, those of the BRANCHES oval, three times smaller than those on the Stalk, and those of the PEDUNCLES lancet-shaped.

CALYX. A PERIANTHIUM divided into five Segments, the SEGMENTS oval, pointed, striated, ferrated and, *edged with little glands* of a blackish red colour, *fig. 2.*

COROLLA. Five PETALS, oblong, oval, yellow, slightly striated ; on the under side tinged with a bright orange, slightly ferrated, and edged with glands, *fig. 3.*

STAMINA. The FILAMENTS numerous, to thirty-six, filiform, uniting at bottom in three Fasciculi or Bundles, in each Fasciculus 12 ; the ANTHERÆ roundish and bilocular, *fig. 4.* The POLLEN bright scarlet.

PISTILLUM. The GERMEN oval, three STYLES the length of the Germen, spreading, the STIGMATA small and roundish, *fig. 5.*

SEED-VESSEL a CAPSULE somewhat conical, of a brown colour, with three cavities, *fig. 6, 7.*

SEEDS numerous, oblong and brown, *fig. 8.*

THE antient Botanists gave this Plant the name of PULCHRUM, from its beauty ; and LINNÆUS has very properly continued it ;—many will, no doubt, think it deserving of a place in their gardens, it is fond of a clayey soil, and woody situation, and is found in all the woods about town, as HORNSEY WOOD beyond *Uxbridge*, OAK OF HONOUR WOOD, (as it is generally called) a little beyond *Peckham* ; CHARLTON-WOOD by *Greenwich*, likewise on HOUNSLOW-HEATH ; it flowers in the month of *July*, and continues but a short time in blossom.

Its virtues as a medicine are probably the same with the common *St. John's Wort*.





Hypericum Perforatum.

HYPERICUM PERFORATUM. COMMON St. JOHN'S WORT.

HYPERICUM *Linnaei Gen. Pl. POLYADELPHIA POLYANDRIA.*

Raii Synopsis Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

HYPERICUM *perforatum*, floribus trigynis, caule ancipiti, foliis obtusis pellucido-punctatis. *Linnaei Syst.*

Vegetab. p. 584. Fl. Suecic. n. 680.

HYPERICUM caule terete, alato, ramosissimo; foliis ovatis, perforatis. *Haller. hist. vol. 2. p. 4.*

HYPERICUM vulgare *Baubin. Pin. p. 279. Gerard. emac. 540. Parkinson 572. Raii Synop. 342. Hudson Fl.*

Angl. 290. Scopoli. Fl. Carniol. n. 944,

Tota planta glandulis nigris adspersa.

RADIX perennis, lignosa, fusca.

CAULES plerumque plures ex eadem radice, bipedales, erecti, sublignosi, *laeves, teretes, alternè ancipites fig. 1, ramosi.*

RAMI oppositi, suberecti, ancipites.

FOLIA opposita, sessilia, ovato-oblonga, obtusa, perforata five pellucido-punctata, heptanervia ex luteo-viridia. *fig. 2.*

PEDUNCULI ancipites, multiflori.

PANICULA densa.

CALYX: PERIANTHIUM quinquepartitum, striatum, laciniis lanceolatis, acuminatis, nudis. *fig. 3.*

COROLLA: petala quinque, flava, ad unum latus crenulata, glandulis nigris adspersa. *fig. 4.*

STAMINA: FILAMENTA plurima, in tria corpora vix coalita. *fig. 5. ANTHERÆ flavæ, biloculares, loculis subrotundis, inter quos glandula nigra ponitur. fig. 6.*

PISTILLUM: GERMEN subovatum, STYLI tres divaricantes: STIGMATA simplicia. *fig. 7.*

PERICARPIUM: CAPSULA subtrigona *fig. 8. trilocularis fig. 9. pallide fusca.*

RECEPTACULUM feu Thalamus feminum foramine triquetro gaudet, quod in pericarpium immaturi sectione transversa clare distingui potest, ut observavit Cl. Scopoli.

SEMINA plurima, oblonga, fusca. *fig. 10. 11.*

The whole plant is sprinkled over with small black glands.

ROOT perennial, woody, of a brown colour.

STALKS several for the most part, springing from the same root, about two feet high, upright, woody, *smooth, round, alternately two edged, fig. 1,* much branched.

BRANCHES opposite, nearly upright, two edged.

LEAVES opposite, sessile, of an oblong oval shape, obtuse, having the appearance of being all over perforated, of a yellowish green colour, with seven nerves or ribs, *fig. 2*

PEDUNCLES two edged, supporting many flowers.

PANICLE bushy.

CALYX A PERIANTHIUM divided into five segments, and striated, the segments *narrow and pointed, without any glands on them. fig. 3.*

COROLLA: five PETALS of a yellow colour, notched irregularly on one side, and sprinkled over with little black glands. *fig. 4.*

STAMINA: FILAMENTS numerous, uniting at bottom in three scarcely distinct bodies or fasciculi *fig. 5. ANTHERÆ yellow and bilocular, each of the Cavities of a roundish figure, and between them is situated a small black gland. fig. 6.*

PISTILLUM: GERMEN somewhat oval, three STYLES which divaricate; the STIGMATA simple, *fig. 7.*

SEED-VESSEL: a CAPSULE somewhat triangular, *fig. 8, of a pale brown colour, with three Cavities, fig. 9.*

RECEPTACLE: the Receptacle which is continued through the Capsule, and connects the Cavities together, has a triangular hole in it, which is very obvious in a transverse section of it before it is ripe,—as the celebrated *Scopoli* has justly observed.

SEEDS numerous, oblong, and brown, *fig. 10. 11.*

It very often happens, that some of the minute parts of the Flower, and Seed, afford a more obvious, certain, and constant mark of specific difference, than any part of the plant besides, and we have a remarkable instance of the truth of this observation in the plant before us. A little gland, of a black colour, placed on the summit of the Anthera, at one view distinguishes this species, without any farther investigation: did such obvious distinctions prevail in all plants, a knowledge of them might with much ease be acquired; and fortunately we shall find, on examination, such marks more frequently occur than is generally imagined; whenever they do, we shall not fail to remark them.

The apparent perforation of the leaves, from whence this species is named, is not peculiar to it alone. Although in the present practice this officinal plant does not seem to be much regarded, yet its sensible qualities, and the repeated testimonies of its virtues, entitle it as Dr. Cullen * observes to farther trials. To the taste it is astringent and bitter, and its effects seem to be chiefly diuretic. From possessing properties which have generally been called balsamic, it has been used as a vulnerary in external wounds, and internal hemorrhages, for the former purpose, the tops of the plant with the flowers are infused in oil, and for the latter, an infusion of the plant is made in the manner of Tea. It has likewise been given in ulcerations of the kidneys, and has even been supposed to possess virtues as a febrifuge.

It has had the ill fate to be abused by the superstition of the common people in France and Germany, who gather it with great ceremony on St. John's Day, and hang it in their Windows, as a certain charm and defence against Storms, Thunder, and evil Spirits; mistaking the meaning of some medical writers, who have fancifully given this plant the name of *Fuga Daemonum* because they supposed, if given internally, it was a good medicine for maniacal and hypochondriacal Disorders.

The dried plant boiled with Allum dyes Wool of a yellow colour. It grows very common in hedges and fields that are but seldom tilled, and flowers in August and September.

*Vid. Dr. Cullen's Materia Medica p. 206.







Hypericum hirsutum.

HYPERICUM HIRSUTUM. HAIRY ST. JOHN'S WORT.

HYPERICUM *Lin. Gen. Pl.* POLYADELPHIA POLYANDRIA.

Cal. 5, *partitus*, *Petala* 5, *Filamenta* multa, in 5 phalanges basi connata: *Capsula*.

Raii Syn. HERBÆ PENTAPETALÆ VASCULIFERÆ.

HYPERICUM *hirsutum* floribus trigynis, calycibus ferrato-glandulosis, caule tereti erecto, foliis ovatis subpubescentibus. *Lin. Syst. Vegetab. Sp. Pl.* 1105. *Fl. Suec.* n. 682.

HYPERICUM foliis ovatis, per oram punctatis, calycibus lanceolatis, ferratis, globuligeris, *Haller. hist.* n. 1042.

HYPERICUM *hirsutum* *Scopoli Fl. Carniol.* p. 92. n. 945.

ANDROSÆMUM *hirsutum*, *Bauhin. pin.* 280.

HYPERICUM *Androsæmum dictum.* *Bauh. hist.* III. 382.

ANDROSÆMUM alterum *hirsutum.* *Col. ecphr.* 1. p. 75. t. 74.

ANDROSÆMUM *Ascyron dictum*, caule rotundo *hirsuto.* *Moris. hist.* 2. p. 971. f. 5. t. 6. f. 11.

HYPERICUM *villosum erectum*, caule rotundo. *Tournefort. Inst.* 255. *Raii Syn.* Tutſan St. John's Wort.

Hudson Fl. Angl. ed. 2. p. 333. *Lightfoot Fl. Scot.* p. 419.

RADIX perennis, fibrosa, fibris fuscis, rigidis, sublig-
nosa.

CAULIS sesquipedalis, ad tripedalem, erectus, solidus,
rubicundus, teres, pubescens, plerumque
simplex, ramosus etiam occurrit, rarius vero
quam in hyperico perforato.

FOLIA alterne opposita, oblonga, obtusa, sessilia, utrin-
que villosula, margine minutim ciliata, sep-
temnervia, punctis diaphanis minutissimis
per totam superficiem adspersa.

RAMI: rudimenta rami constantes foliolis quatuor de-
cussatis in axillis foliorum sæpius observantur,
hæc vero aliquando omnino defunt, et non-
nunquam in ramos producuntur.

FLORES flavi, terminales, in panicula, oblonga, sub-
spicata.

CALYX: PERIANTHIUM quinquepartitum; laciniis
lanceolatis, bifurcatis, margine glandulosis, fo-
liola etiam et gemmæ calyci subiecta glan-
dulis nigris pedicellatis ornantur. *fig. 1.*

COROLLA: PETALA quinque, flava, oblongo-ovata,
obtusa, patentia, striata. *fig. 2.*

STAMINA: FILAMENTA viginti, ad triginta, in tres
phalanges obscure divisa, capillaria, recta, fla-
va, corolla breviora; ANTHERÆ subrotundæ,
didymæ, flavæ. *fig. 3.*

PISTILLUM: GERMEN subrotundum. STYLI tres,
simplices, distantes, longitudine staminum;
STIGMATA simplicia. *fig. 4.*

PERICARPIUM: Capsula oblonga, trilobularis, tri-
valvis. *fig. 5. 6.*

SEMINA plurima, minima. *fig. 7.*

ROOT perennial, fibrous, the fibres brown, rigid, and
somewhat woody.

STALK a foot and a half to three feet high, upright,
solid, reddish, round, hairy, or downy, ge-
nerally simple, but sometimes branched,
though much less so than the common Saint
John's Wort.

LEAVES alternately opposite, oblong, obtuse, sessile,
hoary on each side, the edge finely ciliated,
marked with seven ribs, and very minute
transparent dots spread all over its surface.

BRANCHES: rudiments of branches consisting of four
leaves forming a cross are generally observed
in the axæ of the leaves, these however are
sometimes wanting, and sometimes are drawn
out into branches.

FLOWERS yellow, terminal, in an oblong panicle
forming a kind of spike.

CALYX: a PERIANTHIUM divided into five segments;
which are lanceolate, with two grooves, and
glandular on the edge, the small leaves and
buds below the calyx are also ornamented with
black glands placed on footstalks. *fig. 1.*

COROLLA: five PETALS of a yellow colour and ob-
long oval shape, blunt, spreading and striated.
fig. 2.

STAMINA: from twenty to thirty FILAMENTS ob-
scurely divided into three bundles or fasciculi,
very fine, straight, yellow and shorter than the
Corolla; Antheræ roundish, double, yellow.
fig. 3.

PISTILLUM: GERMEN roundish: STYLES three,
simple, spreading, the length of the stamina.
STIGMATA simple. *fig. 4.*

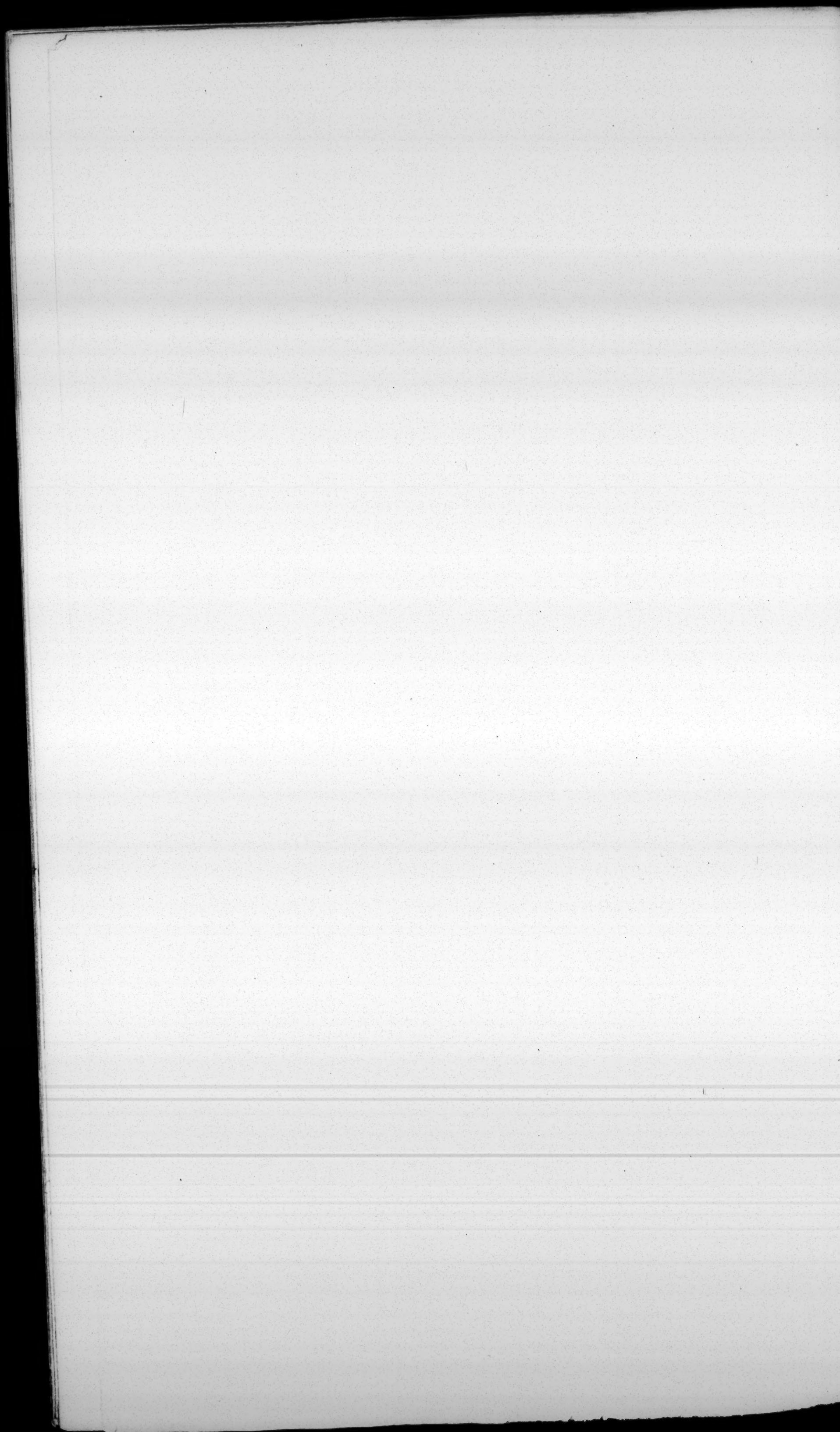
SEED-VESSEL an oblong capsule of three cavities and
three valves. *fig. 5. 6.*

SEEDS numerous and very minute. *fig. 7.*

The more ancient Botanists paying but little regard to the nicety of distinction, overlooked this species of *Hypericum*; COLUMNA possessing greater discernment than his predecessors appears first to have figured and described it; by superficial observers it may easily be mistaken for the common St. John's Wort, but differs from it in being a taller plant, having a stalk perfectly round and hoary, and the edges of the calyx beset with black glands, it is also more apt to grow in woods and coppices, though it is frequently met with in hedges.

It flowers in July and August.

It grows plentifully in a field just beyond Dulwich College, also about the Oak of Honour Wood near Peckham, and most of the Woods near Town.







Hypericum quadrangulum

HYPERICUM QUADRANGULUM. SQUARE-STALKED ST. JOHN'S WORT.

HYPERICUM *Lin. Gen. Pl.* POLYADELPHIA POLYANDRIA.

Cal. 5-partitus, *Petala* 5, *Filamenta* multa in 5 phalanges basi connata.
Capsula.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

HYPERICUM *quadrangulum* floribus trigynis, caule quadrato herbacea. *Lin. Syst. Vegetab.* p. 584.
Sp. Pl. p. 1104. *Fl. Suec.* n. 670.

HYPERICUM caule quadrangulati, foliis ovatis perforatis punctatis. *Haller. Hist.* n. 1038.

HYPERICUM *quadrangulum.* *Scopoli Fl. Carn.* n. 943.

HYPERICUM vulgare minus caule quadrangulo foliis non perforatis. *Baub. pin.* 272.

HYPERICUM *Ascyron* dictum caule quadrangulo. *Baub. Hist.* 3. p. 382.

ASCYRON *Dod. pempt.* 78. *Ger. emac.* 542. *vulgare Parkinson* 575. *Raii Syn.* p. 344. St. Peter's
Wort. *Hudson. Fl. Angl. ed.* 2. p. 334. *Lightfoot Fl. Scot.* p. 416.

RADIX perennis, subrepens, fibrosa.

CAULIS pedalis ad sesquipedalem, erectus, ramosus, glaber, rubescens, quadratus, quatuor membranis, seu alis in secundum longitudinem productis.

FOLIA opposita, sessilia, ovata, obtusa, lævia, saturate viridia, subtus pallidiora, septemnervia, per totam superficiem punctis minutis diaphanis adpersa, margine glandulis nigris subtus præsertim punctata.

RAMI cauli similes, decussatim oppositi.

FLORES lutei, parvi, in summitatibus ramulorum dente paniculati.

RAMULI paniculae sanguinei.

PEDUNCULI brevissimi.

CALYX: PERIANTHIUM quinquepartitum, laciniis lanceolatis, patentibus, nervosis, integerrimis, nudis. *fig. 1.*

COROLLA: PETALA quinque, lutea, lineata, glandulis paucis nigris ad oras punctata. *fig. 2.*

STAMINA: FILAMENTA plurima, in fasciculos vix divisa; ANTHERÆ subrotundæ, flavæ, glandula nigra notata. *fig. 3.*

PISTILLUM: GERMEN obovatum; STYLI tres, patentibus, subulati; STIGMATA minima, capitata. *fig. 4.*

PERICARPIUM: CAPSULA fusca, trilocularis, trivalvis. *fig. 5.*

SEMINA plurima, minima, oblonga, nitidiuscula. *fig. 6.*

ROOT perennial, somewhat creeping and fibrous.

STALK from a foot to a foot and a half in height, upright, branched, smooth, reddish, square from having four little membranes or wings which run down the stalk.

LEAVES opposite, sessile, ovate, obtuse, smooth, of a deep green colour, paler underneath, strongly marked with seven ribs, the whole surface covered with small transparent dots, and the edge, especially on the under side, dotted with black glands.

BRANCHES like the stalk, alternately opposite.

FLOWERS of a yellow colour, small, growing on the tops of the branches in close panicles.

BRANCHES of the panicle of a deep red or blood colour.

FLOWER-STALKS very short.

CALYX: a PERIANTHIUM deeply divided into five segments, which are lanceolate, spreading, rib'd, entire, and free from glands. *fig. 1.*

COROLLA: five yellow PETALS, finely grooved, dotted on the edge with a few small black glands. *fig. 2.*

STAMINA: FILAMENTS numerous, scarcely divided into bodies or bundles; ANTHERÆ roundish, yellow, marked with a black gland. *fig. 3.*

PISTILLUM: GERMEN inversely ovate; STYLES three, spreading, tapering; STIGMATA very small, forming little heads. *fig. 4.*

SEED-VESSEL: a brown CAPSULE of three cavities and three valves. *fig. 5.*

SEEDS numerous, very small, oblong, and somewhat shining. *fig. 6.*

The *Saint-John's-Worts* (at least of this country) are a genus of plants which, having strong characteristic marks, and being subject to little variation, give the Botanist no great trouble in their investigation; it is sufficient to say of this species for instance, that it has a square stalk, and it is at once distinguished from all the others.

CASPAR BAUHINE commits no small error when he describes the leaves of the *quadrangulum* as imperforate, the least attention will shew the transparent dots on the leaves to be fully as numerous, if not so large as those of the *perforatum*; the antient Botanists also absurdly enough distinguished this species from the others by the name of *Ascyron*, or *Saint-Peter's-Wort*, but as it has no pretensions to any generic distinction, we have dropped that name, as tending much to confuse: and while we are censuring the faults of others, we shall mention an error of our own; in describing the *Hypericum perforatum* we pointed out a little black gland visible betwixt the lobes of the antheræ, as characteristic of that species, we now find the same on the *quadrangulum* also.

This species grows very plentifully by the sides of rivulets, also in wet meadows. By the sides of the ditches in *Battersea Meadows* it is particularly common, and flowers in July.

It is seldom used in medicine, the *perforatum* supplying its place.





Senecio palustris.

SONCHUS PALUSTRIS. MARSH OR TREE SOW-THISTLE.

SONCHUS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. nudum. Calyx imbricatus, ventricosus. Pappus plumosus.

Raii Syn. Gen. 27. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

SONCHUS *palustris* pedunculis calycibusque hispidis subumbellatis, foliis runcinatis basi aristatis. *Lin. Syst. Vegetab. p. 594. basi sagittatis. Sp. Pl. p. 1116.*

SONCHUS asper arborefcens. *Baubin. Pin. p. 124. ed. 2.*

HIERACIUM arborefcens palustre. *Ejusd. ed. 1.*

SONCHUS tricubitalis, folio cuspidato. *Merr. Pin.*

SONCHUS arborefcens alter. *Ger. Em. p. 294.*

SONCHUS lævis altissimus vel Sonchus lævior austriacus 5. altissimus. *Clus. Hist. CXLVII.*

SONCHUS arborefcens. *Parkins. p. 808. Raii Syn. p. 163.. The greatest Marsh Tree Sow-thistle: Hudson. Fl. Anglic. p. 337.*

RADIX perennis, plurimis fibris majusculis capillata, minime vero repens sicut in arvensi.

CAULIS: ex eadem radice, exsurgunt caules plures, erecti, orgyales, et ultra, crassitie pollicis, angulati, læves, purpurascens, fistulosi, lactescens, foliosi, apice ramosi.

FOLIA caulina sparsa, inferiora basi sagittata, runcinata, laciniis duabus, vel tribus utrinque inæqualibus, acuminatis, terminali longissima, suprema integra, ensiformia, basi aristata, omnibus minutim denticulatis.

FLORES subumbellati, lutei, floribus arvensis duplo minores.

PEDUNCULI hispidi seu potius viscidum cum omnes pili globulo terminantur.

CALYX communis primo cylindraceus, apice truncatus, viscidus, peracta florescentia ventricoso-conicus, squamis plurimis, linearibus, inæqualibus.

COROLLA composita, imbricata, uniformis. *Corollæ* hermaphroditæ, numerosæ, æquales. *Tubus* longitudine limbi, albus, pilosus. *Limb* linearis, apice quinquedentatus, *fig. 1, 2.*

STAMINA: FILAMENTA quinque, capillaria, brevissima. ANTHERÆ flavæ, in tubum cylindraceum coalitæ, *fig. 3.*

PISTILLUM: GERMEN oblongo-ovatum, album. STYLUS filiformis, longitudine staminum. STIGMATA duo, revoluta, *fig. 4, 5.*

SEMEN pallide fuscum, oblongum, utrinque sulcatum, unde subtetragonum apparet, *fig. 6.*

PAPPUS femine longior, sessilis, simplex.

RECEPTACULUM nudum, punctis prominulis scabrum.

ROOT perennial, furnished with numerous large fibres, but not creeping, as in the corn Sow-thistle.

STALK: from the same root arise several stalks, upright, six feet or more high, the thickness of one's thumb, angular, smooth, purplish, hollow, milky, and branched at top.

LEAVES of the stalk placed without any regular order, the lower ones arrow-shaped at the base, and runcinate, with two or three unequal pointed segments on each side, the terminal one very long, the upper leaves entire, sword-shaped, bearded at the base, all of them very finely toothed.

FLOWERS of a yellow colour, about half the size of those of the corn Sow-thistle, forming a large kind of umbel.

FLOWER-STALKS hispid or rather viscid, as each hair is terminated by a globule.

CALYX: the common calyx at first cylindrical, truncated at top, and viscid, the flowering being over, bellying out at bottom and conical, the scales numerous, linear and unequal.

COROLLA compound, imbricated and uniform. *Florets* hermaphrodite, numerous, and equal. *Tube* the length of the limb, white and hairy. *Limb* linear, terminated by five teeth, *fig. 1, 2.*

STAMINA: five, capillary, very short FILAMENTS. ANTHERÆ yellow, forming a cylindrical tube, *fig. 3.*

PISTILLUM: GERMEN oblong-ovate, white. STYLE filiform, the length of the stamina. STIGMATA two, rolled back, *fig. 4, 5.*

SEED pale brown, oblong, with a groove on each side, whence it appears somewhat four cornered, *fig. 6.*

DOWN longer than the seed, sessile, unbranched.

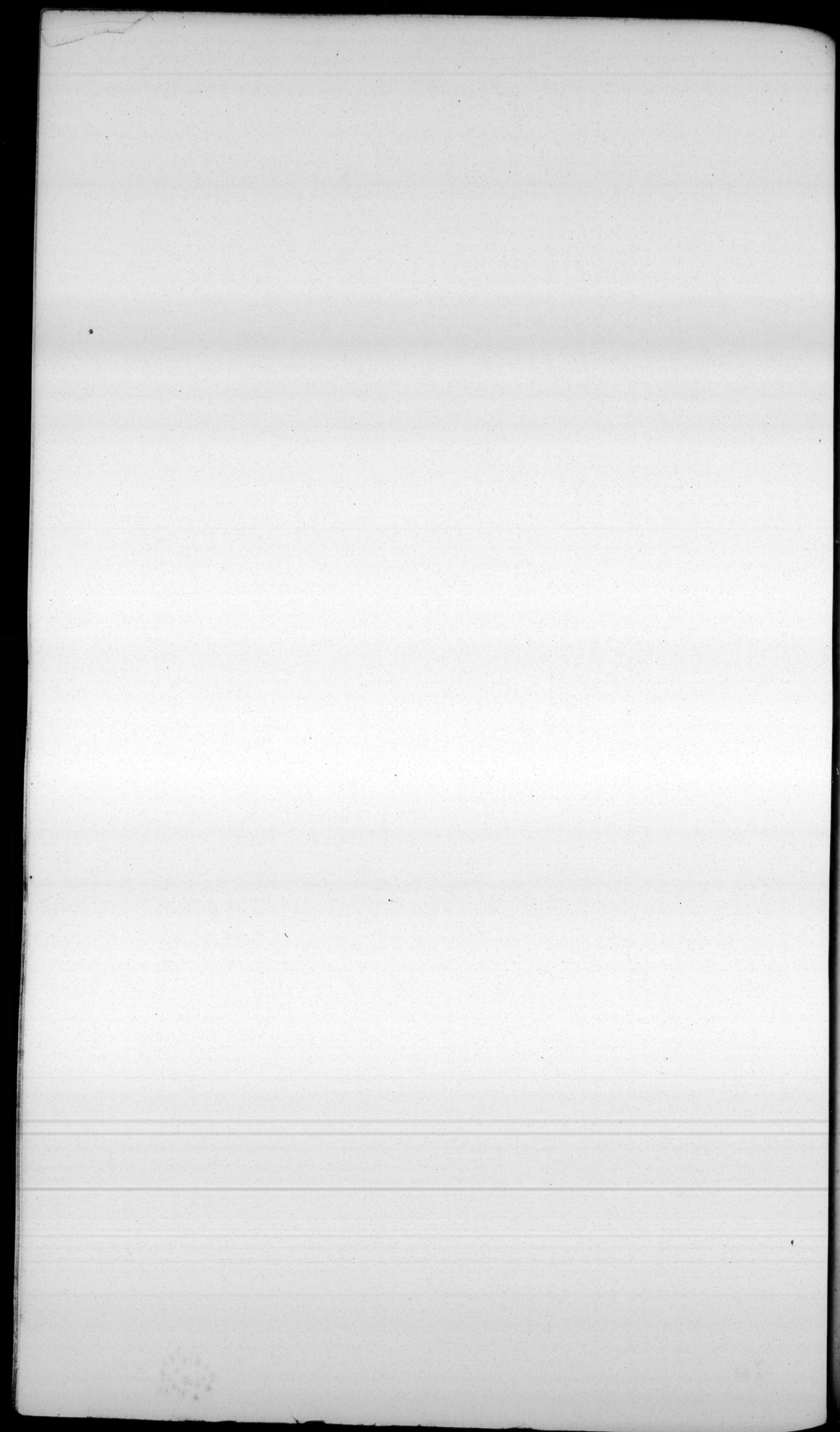
RECEPTACLE naked, rough with small prominent points.

PARKINSON gives a tolerable figure, and a pretty accurate description of this plant; and succeeding Botanists, particularly RAY, have sufficiently ascertained its specific characters: nevertheless HALLER considers it as a variety of the *arvensis*: his words are, "nec mihi omnia consideranti differre videtur." Had the Baron seen the plant growing, he certainly would not have been thus singular in his opinion.

It agrees with the *arvensis* in having a perennial root, which however does not creep. When placed in a garden, by the side of the *arvensis*, it exceeds it one half; and when planted by the water side, out-tops it by two-thirds. Indeed, in such situations we have seen it ten feet high, and we believe it may justly be considered as the tallest English plant; but though it is so much taller than the *arvensis*, its blossoms are not so large. In its place of growth it differs also from the *arvensis*; while the one is chiefly observed in corn-fields, the other is a constant inhabitant of marshes. There is a difference also in the periods of their flowering, the *palustris* being later by about three weeks; but the base of the leaf in these two plants affords, perhaps, the best character, and of which LINNÆUS, with his usual acumen, has availed himself.

The *Sonchus palustris* occurs sparingly in the marshes about Blackwall and Poplar, and flowers the latter end of July.

The common Sow-thistle is well known to be a favourite food of rabbits; but we believe it has scarcely been suspected, that it might be ranked with our esculent herbs; yet a gentleman, whose delicate state of health has led him to make experiments on such kind of plants, and in whose veracity we place the most implicit confidence, assures us, that he has found the tender shoots and buds of the common Sow-thistle (the smooth sort) boiled in the manner of Spinach, to afford excellent greens, superior to any others which he has tried, not in common use.







Sonchus arvensis.

SONCHUS ARVENSIS. CORN SOW-THISTLE.

SONCHUS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. nudum. Cal. imbricatus, ventricosus. Pappus pilosus.

Raii Syn. Gen. 5. HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

SONCHUS *arvensis* pedunculis calycibusque hispidis subumbellatis, foliis runcinatis basi cordatis. *Lin. Syst. Vegetab. p. 594. Spec. Pl. 1116. Fl. Suec. n. 687.*

SONCHUS foliis amplexicaulibus semipinnatis ferratis, calycibus hispidis. *Haller. Hist. 23.*

HIERACIUM arvense. *Scopoli Fl. Carniol. n. 974.*

HIERACIUM majus folio sonchi. *Baubin. Pin. 126.*

SONCHUS repens multis Hieracium majus. *Baub. Hist. 2. 170.*

SONCHUS arborescens. *Ger. emac. 294. Raii Syn. p. 163. Tree Sow-thistle. Hudson Fl. Angl. ed. 2. p. 337. Lightfoot Fl. Scot. 427.*

RADIX *perennis, lactiflua, longe, lateque repens, difficulter eruta.*

CAULIS *bi seu tripedalis et ultra, erectus, fistulosus, lactescens, subangulatus, lævis, inferne sæpe purpureus, superne ramosus.*

FOLIA *alterna, runcinata, basi cordata, amplexicaulia, lævia, nitidula, subtus pallidiora, spinis mollicellis circa margines donata.*

FLORES *subumbellati, magni, lutei.*

PEDUNCULI *longi, teretes, pilis longis luteis, globuligeris vestiti.*

CALYX *communis priusquam flosculi expanduntur cylindricus, apice truncatus, postea ventricosus, squamis plurimis, erectis, inæqualibus, carinatis, sordide viridibus, hirsutissimis, pilis sicut in pedunculis.*

COROLLA *composita, imbricata, Corollulis hermaphroditis, numerosis, æqualibus.*

Propria *monopetala, tubus albus, tenuis, superne pilosus, limbus luteus, longitudine fere tubi marginibus sæpe subinvolutis, quinque-dentatus. fig. 1.*

ANTHERÆ *in tubum flavum, subangulatum, coalitæ.*

STIGMATA *duo, filiformia, reflexa.*

SEMEN *ovato-oblongum, badium, fulcatum, angulis ad lentem transversim rugosis, papposum, pappo simplici, sessili. fig. 2.*

ROOT *perennial, milky, creeping far and wide, with difficulty eradicated.*

STALK *from two to three feet high, or more, upright, hollow, milky, somewhat angular, smooth, often purple below, above branched.*

LEAVES *alternate, like those of Dandelion, heart shaped at the base, embracing the stalk, smooth, shining, paler on the under side, the edges furnished with softish prickles.*

FLOWERS *growing in a kind of umbel, large and yellow.*

FLOWER-STALKS *long, round, covered with long, yellow, hairs, bearing globules at their extremity.*

CALYX *common to all the florets, before their expansion, cylindrical and cut off at the extremity, afterwards bellying at the base and conical, the scales numerous, upright, unequal, keeled, of a dirty green colour, and extremely hairy, the hairs similar to those on the flower-stalks.*

COROLLA *compound and imbricated, the Florets hermaphrodite, numerous and equal.*

Each Floret *monopetalous, the tube white, slender, hairy above, the flat part yellow, almost the length of the tube, the edges frequently rolled inward, furnished with five teeth. fig. 1.*

ANTHERÆ *united into a yellow, and somewhat angular tube.*

STIGMATA *two, thread-shaped, reflexed.*

SEED *of an oblong egg-shape, bay colour, and grooved, the angles transversely wrinkled when magnified, downy, the down simple, and sessile. fig. 2.*

This species of *Sonchus* is properly termed *arvensis*, being commonly found in corn fields, in which its large yellow blossoms, towering above the corn, render it a very conspicuous plant; these alone are sufficient to distinguish it from the common Sow-thistle, it has besides two other very distinct characters; the one a creeping root, whereby it becomes very noxious to the husbandman; the other, numerous yellow hairs, with little globules at their extremities, thick spread over the calyces and flower-stalks.

It blossoms in *July* and *August*; many of its seeds prove abortive.





Senecio cleraceus

SONCHUS OLERACEUS. COMMON SOWTHISTLE.

SONCHUS *Linnaei Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

Recept. nudum. Cal. imbricatus ventricosus. Pappus pilosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

SONCHUS *oleraceus* pedunculis tomentosis calycibus glabris. *Linnaei Syst. Vegetab. p. 594. Flor. Suecic. p. 269. Sp. Plant. p. 1116.*

SONCHUS foliis amplexicaulibus, dentatis, integris aut femipinnatis, calycibus lævibus. *Haller. hist. p. 10. n. 21.*

HIERACIUM *oleraceum. Scopoli Fl. Carniol. p. 110.*

SONCHUS lævis laciniatus latifolius. *Baubin. Pin. 124.*

SONCHUS lævis. *Ger. emac. 292.*

SONCHUS vulgaris. *Parkinson. 805.*

Raii Syn. 162. Hudfon. Fl. Angl. p. 294. ed. 2. p. 336.

Lightfoot Fl. Scot. p. 428.

RADIX annua, simplex, fibrosa, albida, lactescens.

CAULIS pedalis ad tripedalem, lævis, purpurascens, tener, fistulosus, ad basin teres superne subangulosus, ramofus.

FOLIA amplexicaulia, lævia, glauca, nervo medio purpurascente, *inferiora* pinnatifida, pinnarum paria duo aut tria, pinnis dentatis spinulo terminatis, lateralibus ovatis, terminali magno triangulari, *superiora* integra, ovato-acuta, basi lato.

PEDUNCULI tomentosi, per ætatem nudi.

CALYX communis antè florescentiam cylindraceus, et quasi truncatus, postea ventricoso-conicus, squamis plurimis, inæqualibus, lævibus, acuminate, *fig. 1, 2.*

COROLLA composita, imbricata, uniformis: FLOSCULIS monopetalis, ligulatis, quinquedentatis, *fig. 3.*

STAMINA in cylindrum coalita: ANTHERÆ flavæ, apicibus nigricantibus.

PISTILLUM: GERMEN subovatum: STYLUS filiformis, staminibus longior: STIGMATA duo, tenuia, patentia.

SEMEN oblongum, compressum, fulcatum, scabriusculum: PAPPUS scissilis, simplex, tenuissimus, *fig. 4, 5.*

RECEPTACULUM nudum, punctis prominulis scabrum, lucidum, *fig. 6.*

ROOT annual, simple, fibrous, whitish, and milky.

STALK from one to three feet high, smooth, purplish, tender, hollow, at bottom round, towards the top somewhat angular, and branched.

LEAVES embracing the stalk, smooth, glaucous; the midrib purplish; the *lower ones* pinnatifid, consisting of two or three pair of pinnæ, which are indented, and each terminated by a little spine; the side ones oval, the end one large and triangular; the *upper leaves* entire, oval, pointed with a broad base.

FLOWER-STALKS downy, but becoming smooth by age.

CALYX: the common Calyx before the flowering, cylindrical, and as it were cut off at top, afterwards bellying out, and forming a cone, covered with numerous smooth, unequal, pointed scales, *fig. 1, 2.*

COROLLA compound, imbricated and uniform; the FLOSCULES monopetalous, the upper part flat, with five teeth, *fig. 3.*

STAMINA uniting into a cylinder: ANTHERÆ yellow, the tip blackish.

PISTILLUM: GERMEN nearly oval: STYLE filiform, longer than the Stamina: STIGMATA two, slender and spreading.

SEED oblong, flattened, grooved, roughish: Down sessile, simple, very fine, *fig. 4, 5.*

RECEPTACLE naked, rough with little prominent points, and shining, *fig. 6.*

THE *Sowthistle* is subject to many varieties, some of which have differed so much from the common appearance of this plant, as to have occasioned them to be considered as distinct species. Thus HALLER makes the *Senchus asper*, or *prickly Sowthistle*, a distinct species: and the old Botanists formed several other species of it from different circumstances; as size, breadth, divisions of its leaves, &c. But the generality of Botanists seem now disposed to consider them all as the same, varying from soil, situation, &c. The prickly variety seems to be the only one that has any pretensions to be considered as distinct: but if any person will be at the pains to examine a garden overrun with these plants, he will readily trace it into the smooth.

This plant appears to have been little regarded as a medicine; but as a favourite food of Hares and Rabbits, it is collected with great avidity.

It abounds most in gardens and cultivated ground; yet is sometimes met with on walls.

Being a large plant, and of quick growth, it is one of those which usually appear in neglected gardens, overrunning most others, and proving more injurious to the slovenly gardener than the farmer.

It flowers chiefly in July, August, and September.

According to the experiments made by some of LINNÆUS's pupils, and published originally in the *Amœnitates Academicæ*, it appears that it is eaten by Goats, Sheep, and Swine, but not relished by Horses.

The young tender leaves are in some countries, boiled and eaten as greens; *Lightfoot Fl. Scot.*

*In the 2d. vol. of Essays relating to Agriculture and rural affairs, by Mr. ANDERSON, there is a translation of these experiments.





Prenanthes muralis.

PRENANTHES MURALIS. IVY-LEAVED WILD LETTUCE.

PRENANTHES *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept. nudum. Calyx calyculatus. Pappus simplex, subseffilis.
Flosculi simplici serie.*

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

PRENANTHES *muralis* flosculis quinis, foliis runcinatis. *Linn. Syst. Vegetab. p. 596. Sp. Pl. 1121.
Fl. Suec. n. 692.*

PRENANTHES foliis ferratis pinnatis, pinna suprema triangulari trilobata. *Haller. hist. n. 18.*

PRENANTHES *muralis. Scopoli Fl. Carn. n. 964.*

LACTUCA *sylvestris murorum flore luteo. I. B. II. 1004.*

SONCHUS *lævis laciniatus muralis parvis floribus. Baubin. Pin. 124.*

SONCHUS *lævis muralis. Ger. emac. 293.*

SONCHUS *lævis alter parvis floribus. Park. 805. Raii Syn. p. 162. Ivy-leaved Sow-thistle, or Wild
Lettuce. Hudson. Fl. Angl. ed. 2. p. 338. Lightfoot Fl. Scot. p. 431.*

RADIX perennis, ramosa, pallide fusca, lactescens.	ROOT perennial, branched, of a pale brown colour, and milky.
CAULIS pedalis ad tripedalem, erectus, simplex, foliosus, superne subflexuosus, teres, glaucus, purpurascens.	STALK from one to three feet high, upright, simple, leafy, somewhat crooked towards the top, round, glaucous, and purplish.
FOLIA radicalia Soncho oleraceo persimilia, inferne purpurea, caulina alterna, amplexicaulia, patentia.	LEAVES next the root very like those of the common Sow-thistle, purple on the under side, those of the stalk alternate, spreading, and embracing it.
FLORES parvi, lutei, erecti, paniculati.	FLOWERS small, yellow, upright, growing in a panicle.
PANICULA ampla, nuda, ramosissima, purpurascens.	PANICLE large, naked, exceedingly branched, and purplish.
CALYX communis cylindraceus, glaber, purpurascens, squamis cylindri numero corollularum, squamis ad basin cylindri tribus brevissimis inæqualibus, fig. 1.	CALYX: the common Calyx cylindrical, smooth, purplish, the scales of the cylinder as numerous as the florets, with three, very short, unequal small ones at its base, fig. 1.
COROLLA composita, Corollulæ hermaphroditæ plerumque quinque, æquales, in orbem simplicem positæ, latiusculæ, nervosæ, quinquedentatæ, fig. 2.	COROLLA compound, Florets hermaphrodite, usually five in number, equal, forming a single circle, broadish, ribbed, terminated by five teeth, fig. 2.
STAMINA: FILAMENTA quinque, capillaria, brevissima, flava; ANTHERÆ cylindraceæ, tubulosæ.	STAMINA: five capillary FILAMENTS, very short and yellow; ANTHERÆ forming a hollow cylinder.
PISTILLUM: GERMEN subovatum; STYLUS filiformis, staminibus longior; STIGMA bifidum, reflexum, fig. 3.	PISTILLUM: GERMEN subovate; STYLE filiform, longer than the stamens; STIGMA bifid and reflexed, fig. 3.
SEMEN oblongum, basi acuminatum, nigrum, striatum: PAPPUS brevissime petiolatus, simplex, fig. 4.; lente auct. fig. 5.	SEED oblong, pointed at the base and striated: DOWN standing on a very short foot-stalk, simple, fig. 4.; magnified, fig. 5.

Some of the old Botanists considered this plant as a *Lactuca*; others as a *Sonchus*. It approaches nearest to the former, both in its fructification and habit, not but the foliage is very like that of the *Sonchus oleraceus*. LINNÆUS, from the paucity of its florets, makes a distinct genus of it, though number seems scarcely sufficient to constitute a generic character. This paucity of florets (there being seldom more than five) at once distinguishes it however from all its kindred; but at the same time we have known it not a little to puzzle students beginning to learn the classes, and who had studied them from such flowers as Dandelion.

It is not a very common plant with us, but is met with occasionally on walls, in woods, and other shady places. We observed plenty of it this year on the outside of the pales which terminate the Terrace at the Spaniard, Hampstead-Heath, on the declivity towards Lord Mansfield's little wood.

It flowers from July to September.

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Leontodon Taraxacum.

LEONTODON TARAXACUM. Dandelion.

LEONTODON *Linnaei Gen. Pl. SYNGENESIA. POLYGAMIA ÆQUALIS.*

Raii Synopsis ed. 3. Gen. 6. HERBÆ FLORE COMPOSITO, NATURÆ PLENO LACTESCENTES.

LEONTODON *Taraxacum calycis squamis inferne reflexis, foliis runcinatis denticulatis lævibus. Linnaei Syst. Vegetab. p. 596. Sp. Plant 1122. Fl. Succic. 270.*

TARAXACUM *calycibus glabris, squamis imis reflexis. Haller hist. v. 1. p. 56.*

HEDYPNOIS *Taraxacum Scopoli Flor. Carn. n. 957.*

HEDYPNOIS *major Fuschii.*

DENS LEONIS *latiore folio Baubini. Pin. p. 126. Gerard. emac. 290, Parkinson 780. Raii Syn. ed. 3. p. 170. Hudson Fl. Angl. p. 297. Oeder. Fl. Dan. Icon. 574.*

RADIX *perennis, subfusiformis, lactescens, externe pallide fusca.*

FOLIA *laciniato-pinnatifida, plus aut minus profunde incisa, laciniis acutis et acute dentatis, plerumque lævia, nonnunquam vero subaspera.*

SCAPI *nudi, fistulosi, lactescentes, versus apicem subtomentosi, uniflori.*

CALYX *communis lævis, glaucus, squamis inferioribus reflexis, fig. 1.*

COROLLA *composita, flava, corollulis hermaphroditis, numerosis, æqualibus. Propria monopetala, ligulata, truncata quinqueidentata, fig. 2.*

STAMINA: FILAMENTA *quinque capillaria, brevissima, fig. 3. ANTHERÆ flavæ, in tubum cylindraceum coalitæ, fig. 4.*

PISTILLUM: GERMEN *oblongum, fig. 5. STYLUS longitudine corollæ, fig. 6. STIGMATA duo revoluta, fig. 7.*

SEMEN *subincurvatum, subcompressum, subtrigonum, striatum, apice echinatum, pallide olivaceum, fig. 8, 9. PAPPUS stipitatus, simplex, stipite brevior, fig. 10.*

RECEPTACULUM *nudum, alveolatum. fig. 11.*

ROOT *perennial, tapering, milky, externally of a pale brown colour.*

LEAVES *more or less deeply jagged, each jag or lacinia pointed, and sharply indented, generally smooth, but sometimes a little rough.*

STALKS *naked, hollow, milky, towards the top covered with a kind of down, supporting one flower on each.*

CALYX: *the common or general Calyx smooth, glaucous, the lowermost leaves or squamæ turning back, fig. 1.*

COROLLA: *the flower compounded of a great number of COROLLULÆ or lesser flowers, which are yellow, hermaphrodite and equal; each Corollula monopetalous, tubular at bottom, and flat towards the extremity, the apex truncated and quinqueidentate. fig. 2.*

STAMINA: five FILAMENTS *small and very short, fig. 3. the ANTHERÆ yellow, uniting and forming a cylindrical tube. fig. 4.*

PISTILLUM: GERMEN *oblong, fig. 5. STYLE the length of the COROLLA, fig. 6. STIGMATA two, rolling back, fig. 7.*

SEED *a little crooked, flattish, and somewhat four square, striated or grooved, at top prickly, of a pale olive colour, fig. 8, 9. the Down or pappus standing on a footstalk, simple, not feathery, shorter than the footstalk, fig. 10.*

RECEPTACLE *naked, and full of little holes, fig. 11.*

As a medicinal plant the Dandelion is thought to possess considerable virtues, and has been frequently made use of in obstructions of the Viscera, particularly the Jaundice. Some recommend the juice, others a decoction of the whole plant. It appears to operate chiefly by urine, and from possessing this property in a considerable degree it has acquired its vulgar name of *Piss-a-bed*. Its other, and more common name, seems to be a corruption of the French term *Dent de Lion*.

As a kind of salad, this plant is by many preferred to any other, particularly by the inhabitants of Spitalfields, many of whom being descended from French families, that forsook their native country for one more favourable to religious liberty, still retain the peculiar customs of that people in their diet, &c. They blanch, or whiten it as the gardeners do endive, and the inferior class generally use the simple process of laying a tile on it, for whatever excludes the light from this or any other plant will make it become white, all plants deriving their colours from the fountain of light, the sun. And it is remarkable, that many plants containing bitter and acrid juices are rendered by this process mild, sweet, and agreeable: who, for instance, could eat endive, celery, or even lettuce, in their wild uncultivated states?

The Dandelion grows in the greatest plenty in rich meadows, although it is very common on walls, and in courts and areas; when growing in a barren soil or dry situation the leaves become more narrow and jagged.

It flowers in May, and is the first plant which covers our meadows with a beautiful yellow coat, a few weeks afterwards, when it produceth its seed, it changes this for a white one.

Children frequently amuse themselves with blowing off the seeds, which stand naked on the receptacle or top of the stalk, and the round white heads, formed by the expansion of their pappus or down, they call *clocks*.

The young botanist generally finds some difficulty in acquiring a clear idea of the structure of these compound flowers, occasioned by the minuteness of the parts of fructification, which however are much larger and more conspicuous in this than in many others of the class SYNGENESIA, and therefore a proper flower for him to begin with.

On examining the flower of the Dandelion he will find that it is not a double flower, properly so called, as he might be led to think from its fullness, but that it is composed of a great number of *Flosculi*, or lesser flowers placed close together on one common receptacle or bottom, and enclosed by one common or general calyx. On dissecting each of these *Flosculi*, he will find them to consist of a COROLLA, or PETAL fig. 2, which at bottom is tubular, but towards the extremity flat, that from the bottom or tubular part of the corolla, five FILAMENTS spring, which are small and short, yet loose and unconnected fig. 3, that these filaments are furnished with ANTHERÆ, which unite together and form a long slender tube fig. 4, beneath the corolla is placed the GERMEN, or future seed fig. 5, from whence the STYLE, or middle part of the Pistillum proceeds and passes up through the middle of the flower, betwixt the Filaments and through the tube formed by the union of the Antheræ, fig. 6, and is furnished at top with two STIGMATA which roll back, fig. 7, at a little distance from the Germen the lower part of the Stylus is surrounded by numerous upright hairs which are the future PAPPUS or Down, fig. 10.

This, then, he will find to be the appearance of the parts of fructification in a full blown flower.

Those parts of the flower which were more immediately or more remotely necessary to the impregnation of the Seed having now performed their office decay, the Corolla with the Stamina and upper part of the Pistillum drops off, the Seed becomes larger, the lower part of the Pistillum remains, is elongated and becomes the footstalk of the Pappus, and the Seed as yet immature with the Pappus as yet moist are all enclosed and pressed by the Calyx into a conical form. This is its appearance in its second state.

The fructification still going forward the seed becomes ripe and brown, the PAPPUS now deprived of its moisture expands itself every way, fig. 10, pushes back the Calyx, and assumes a spherical form. The seeds fitted for vegetation and thus exposed are carried away by the first strong wind, and "a new race planted far from their native soil."

Such then is the curious process which nature makes use of in the perfecting and dissemination of this plant.





Leontodon hirtum

LEONTODON HIRTUM. DEFICIENT DANDELION.

LEONTODON *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS. *Recept. nudum. Calyx imbricatus, squamis laxiusculis. Pappus plumosus.*

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

LEONTODON *hirtum* calyce toto erecto, foliis dentatis hirtis: fetis simplicissimis. *Linn. Syst. Veg. ed. 14. Murr. p. 715. Sp. Pl. ed. 3. p. 1123. Leers Fl. Herborn. ed. 2. p. 172.*

HEDYPNOIS *hispidum* var β *hirtum.* *Hudson Fl. Angl. ed. 2. p. 340.*

RHAGADIOLUS foliis semipinnatis asperimis. *Haller Hist. n. 7.*

HIERACIUM pumilum saxatile asperum præmorfa radice. *Baub. Pin. 128. Raii Syn. ed. 3. p. 167.*
Dwarf Rough Stone Hawkweed with bitten Roots.

HIERACIUM pumilum Alpinum præmorfa radice. Dwarf Mountaine Hawkweed. *Park. Th. p. 789. 5.*

Among the plants of the Class *Syngenesia*, there are some few whose seeds are not furnished with any pappus, or down, as the *Lapsana communis*, and *Rhagadiolus* of LINNÆUS; in the present plant the seeds in the outer row are destitute of pappus, or crowned only with a few very short bristles, while all the others are furnished in the usual manner. HALLER, the first author, perhaps, who noticed this appearance, considers it of sufficient consequence to found a genus on; he therefore makes it a *Rhagadiolus*, a genus also of TOURNEFORT'S, united by LINNÆUS with the *Lapsana*.

LEERS has very minutely noticed the characters in which this plant differs from the *hispidum* of LINNÆUS, whose specific descriptions of the two plants are not sufficiently discriminating: the setæ, as LEERS has observed, and we have found by experience, varying greatly in both species, for *setis simplicibus*, we would therefore substitute *calycibus glabriusculis, seminibus exterioribus pappo destitutis*, either of which characters will distinguish them; the old Botanists distinction of radice præmorfa is not to be depended on in all cases, as it varies with the age of the plant.

When we figured in the 53d number of the *Flora Lond.* the *Leontodon hispidum*, we had no idea that the present plant was a distinct species, presuming too much on the character drawn from the nodding of the peduncle, which we had found highly useful in ascertaining that species; we considered it as a variety merely, arising from situation, and such should probably ever have regarded it, had not the singular circumstances attending the outer row of seeds been mentioned to us by a Botanist of superior discernment, Dr. BENJAMIN DAWSON, Minister of *Burgh*, in *Suffolk*; on examination we found the seeds exactly as he had represented them, and on comparing the two plants, found them to differ in a variety of particulars, the most striking of which we shall here enumerate.

The whole plant is much smaller, the leaves spread more on the ground, and are of a darker colour, the flower-stalks are more numerous, less upright, not only turning down or nodding at top, but frequently irregularly curled, especially in the young ones, beset with long crooked hairs, particularly towards the bottom, never furnished with small squamæ or leaves, the flower-buds, and flowers themselves much smaller in proportion to those of the *hispidum*, more resembling those of the *Leontodon autumnale*, the uppermost leaves of the calyx smooth, and at the point and edges of a deep purple or blackish colour; and that as far as we have observed invariably, many other characters might be pointed out; but these it is presumed, assisted by the figure, will be sufficient to make the plant known; in doubtful cases recourse may be had to the seed, and it will not be necessary to wait till that be ripe; the character appertaining to it will be visible on a nice examination, even when the plant is in flower: we may add, that the two plants cultivated in the same soil and situation, continue widely different.

Presuming that an English name for this species, drawn from a circumstance leading so immediately to a knowledge of the plant, would be superior to a literal translation of the name of *hirtum*, and which is so very similar to that of *hispidum*, we have been induced to give it that of *deficient*.

The *Leontodon hirtum* is frequent on most of the heaths and commons about town, particularly Hampstead-Heath, and Barnes-Common, where it flowers from June to August.

We rarely meet with the *hirtum* and *hispidum* on the same spot.

Fig. 1. Corollula.

2. Series exterior femin. pappo dest.

3. Semen hujusmodi seorsim posit.

4. Semen ex interior part. fl. pappo instruct.

Fig. 1. A single floret.

2. The outer row of seeds without any pappus.

3. One of the same kind placed singly.

4. A seed from the interior part of the flower furnished with pappus.





Leontodon hispidum.

del. et. sculp.

LEONTODON HISPIDUM. ROUGH DANDELION.

LEONTODON *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. nudum. Calyx imbricatus, squamis laxiusculis. Pappus plumosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

LEONTODON *hispidum* calyce toto erecto, foliis dentatis integerrimis hispidis: setis furcatis. *Lin. Syst. Vegetab. p. 596. Sp. Pl. 1124. Fl. Suec. n. 694.*

HEDYPNOIS scapo nudo unifloro, foliis lanceolatis dentatis hispidis. *Hudson Fl. Angl. 340.*

PICRIS caule nudo, unifloro, foliis asperis dentatis. *Haller. Hist. n. 25.*

LEONTODON *hispidum. Scopoli Fl. Carn. n. 977.*

TARAXACONOIDES perennis et vulgaris. *Vaill. Act. 1721, p. 232.*

HIERACIUM asperum folio magno dentis leonis. *Bauh. Pin. 127.*

HIERACIUM dentis leonis folio hirsutum. *Ger. em. 303.*

HIERACIUM asperum foliis et floribus dentis leonis bulbofi. *Park. 788.*

DENS LEONIS hirsutus λεπτόκαυλον Hieracium dictus. *Raii Syn. p. 171. Rough Dandelion commonly called Dandelion Hawkweed. Lightfoot Fl. Scot. p. 433.*

RADIX perennis, obliqua, e nigro-fusca, plurimis fibris pallidioribus, in terram recte demissis capillata.

SCAPI plerumque plures ex eadem radice, pedales aut fessipedales, erecti, teretes, fistulosi, hirsuti, simplices, nudi, subinde foliolo five pluribus instructi, superne obvie striati et incrassati, ad basin purpurei.

FOLIA radicalia plurima, in pratis suberecta, in apricis supra terram expansa, palmaria seu spithamea, petiolata, oblonga, sinuato-dentata, obtusiuscula, pallide viridia, hirsuta, pilis ut etiam scapi furcatis.

FLORES majusculi, lutei, ante florescentiam semper nutantes.

CALYX fordide virens, squamæ laxè imbricatæ, inæquales, pilis longis albidis plerumque simplicibus hirsutæ.

COROLLA composita, æqualis, flosculi quinquedentati, tubus superne pilosus, fig. 2.

SEMINA oblonga, sublinearia, longitudine fere pappi, exteriores paululum incurvati, interiores recti, ad lentem transverse rugosi, fig. 3.

PAPPUS pilosus, sessilis, fig. 4.

RECEPTACULUM planum, nudum, punctatum.

ROOT perennial, oblique, of a blackish brown colour, furnished with numerous fibres of a paler colour, running straight into the earth.

STALKS usually several from the same root, a foot or a foot and a half high, upright, round, hollow, hirsute, simple, naked, now and then furnished with one or more small leaves, above obviously striated and thickened, purple at the base.

LEAVES: radical leaves numerous, in meadows nearly upright, in exposed situations expanded on the ground, a hand's breadth or more in length, standing on foot-stalks, oblong, indented and toothed, bluntish, of a pale green colour, hirsute, the hairs as also those of the stalk forked at the extremity.

FLOWERS largish, yellow, before blowing always drooping.

CALYX of a dingy green colour, scales loosely imbricated, unequal, rough with long whitish hairs, which are for the most part simple.

COROLLA compound, equal, florets furnished with five teeth, the tube hairy on the upper part, fig. 2.

SEEDS oblong, nearly linear, almost the length of the pappus, the outer ones bending a little inward, the innermost ones straight, when magnified transversely wrinkled, fig. 3.

DOWN hairy, and sessile, fig. 4.

RECEPTACLE flat, naked and dotted.

Like the other plants of the class *Syngenesia*, the *Leontodon hispidum* is subject to vary considerably in size and hairiness; but very luckily it has one character which attends it in all its states, and which never fails to distinguish it, its blossoms droop while in the bud: striking as this character is, we believe it has escaped the observation of former Botanists, at least it has not been considered as of the first consequence in ascertaining the species. The singleness of its stalks also contributes to distinguish it from some other plants of the same class, while the hairs on the leaves afford a more minute distinction, being usually bifid, but not always so.

As far as we have had opportunity of observing, it is a very general plant throughout the kingdom, especially where there is chalk or lime-stone. In such sort of pastures it abounds as much as the common Dandelion does in rich cultivated ones, and when in flower, which is usually in July, cloaths them in the same golden livery.

As it forms so considerable a part of our pasturage, it is of some consequence that we should know whether Cattle are fond of it, either fresh or made into hay; and we wished to lay before our readers the result of LINNÆUS or his Pupils experiments on this head; but, though a Swedish plant, it unfortunately proved to be one of those with which no experiments were made.

The common Dandelion, according to the Linnæan character, is certainly no *Leontodon*, the pappus being simple, and SCOPOLI has accordingly made another genus of it, *Hedypnois*.

Mr. HUDSON has united the present plant, the *Leontodon autumnale*, two species of *Crepis*, with the *Picris echioides*, under one genus of the same name *Hedypnois*; and HALLER arranges our plant with his *Picris*. Amidst all this confusion we have thought it best in the present instance to follow LINNÆUS, especially as there is nothing in the fructification of our plant which militates against the generic character of his *Leontodon*.







Crepis tectorum.

CREPIS TECTORUM. SMOOTH SUCCORY-HAWKWEED.

CREPIS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. nudum. *Cal.* calyculatus, squamis deciduis. *Pappus* plumosus, stipitatus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

CREPIS *tectorum* foliis lanceolato-runcinatis sessilibus lævibus, inferioribus dentatis. *Lin. Syst. Vegetab.* p. 600. *Sp. Pl.* p. 1135. *Fl. Suec.* n. 705.

HEDYPNOIS *tectorum* caule folioso ramofo, foliis runcinatis nudis, radicalibus lanceolatis, caulinis sagittatis acutis sessilibus. *Hudson. Fl. Angl. ed. 2.* p. 341.

CREPIS foliis ad terram pinnatis, superne amplexicaulibus pinnatis hastatis. *Haller. Hist. n.* 31.

CREPIS *tectorum.* *Scopoli Fl. Carn.* n. 954.

HIERACIUM luteum glabrum five minus hirsutum. *I. B. II.* 1024.

CICHOREUM pratense luteum lævius. *Baub. Pin.* 126. *Park.* 778.

HIERACIUM aphacoides. *Ger. em.* 297.

HIERACIUM foliis et facie chondrillæ. *Parkins.* 794. *Raii Syn.* p. 165. Smooth Succory Hawkweed. *Lightfoot Fl. Scot.* p. 440.

RADIX annua, simplex, parum fibrosa, descendens, lutescens.

CAULIS pedalis, bipedalis et ultra, erectus, angulato-striatus, nunc glaber, nunc hirsutus, præsertim inferne, sæpe purpureus, foliosus, ramosus.

FOLIA valde variabilia, sæpe tota glabra, alias utrinque hirsutula, radicalia taraxaci per similia, sed paulo angustiora, nervo medio superne purpureo, caulina amplexicaulia, acuta, varie dentata, ramæ subintegra, linearia, subsagittata, marginibus revolutis.

FLORES inter minores hujus familiæ, flavi, laxè corymbofi.

CALYX communis duplex, exterior brevissimus, patulus, interior subcylindraceus, simplex, sulcatus, squamis erectis, linearibus, conniventibus, æqualibus, longitudinaliter pilis globuliferis hispidulis, squamæ ad basin quinque aut plures, subulatae, breves, inæquales, laxæ, pariter hispidulae.

COROLLA composita, imbricata; *Corollulis* hermaphroditis, plurimis, æqualibus, propria monopetalâ, truncata, quinquedentata, subtus plerumque purpurea, *fig. 1.*

STAMINA: FILAMENTA quinque, capillaria, brevissima. ANTHERA cylindracea, tubulosa, *fig. 2.*

PISTILLUM: GERMEN subovatum. STYLUS filiformis, longitudine staminum. STIGMATA duo, reflexa, *fig. 3.*

SEMINA viginti et ultra in singulo capitulo, fusca, striata; *Pappus* femine longior, sessilis, simplex, *fig. 4.*

ROOT annual, simple, furnished with few fibres, descending, yellowish.

STALK from one to two feet high or more, upright, somewhat angular and finely grooved, sometimes perfectly smooth, sometimes a little hairy, especially towards the base, often purple, leafy, and branched.

LEAVES extremely variable, sometimes perfectly smooth, sometimes slightly hirsute on both sides, those next the root very like the leaves of dandelion, but a little narrower, the midrib purple on the upper side, those of the stalk embracing the stalk, pointed, and variously indented, those of the branches nearly entire, linear and somewhat arrow-shaped, the edges rolled back.

FLOWERS smaller than most of this family, yellow, and growing loosely in a kind of corymbus.

CALYX common to all the florets double, the exterior one very short and spreading, the interior one somewhat cylindrical, simple, and grooved, the scales upright, linear, connivent, equal, longitudinally beset with stiff hairs, having a little globule at their extremities, the scales at the base are about five or more in number, subulate, short, unequal, loose, and like the others slightly hispid.

COROLLA compound, and imbricated; *Florets* hermaphrodite, numerous and equal, each single floret monopetalous, truncated, having five teeth, and for the most part purple beneath, *fig. 1.*

STAMINA: five, very short, capillary FILAMENTS. ANTHERÆ united into a cylindrical tube, *fig. 2.*

PISTILLUM: GERMEN somewhat ovate. STYLE filiform, the length of the stamina. STIGMATA two, turned back, *fig. 3.*

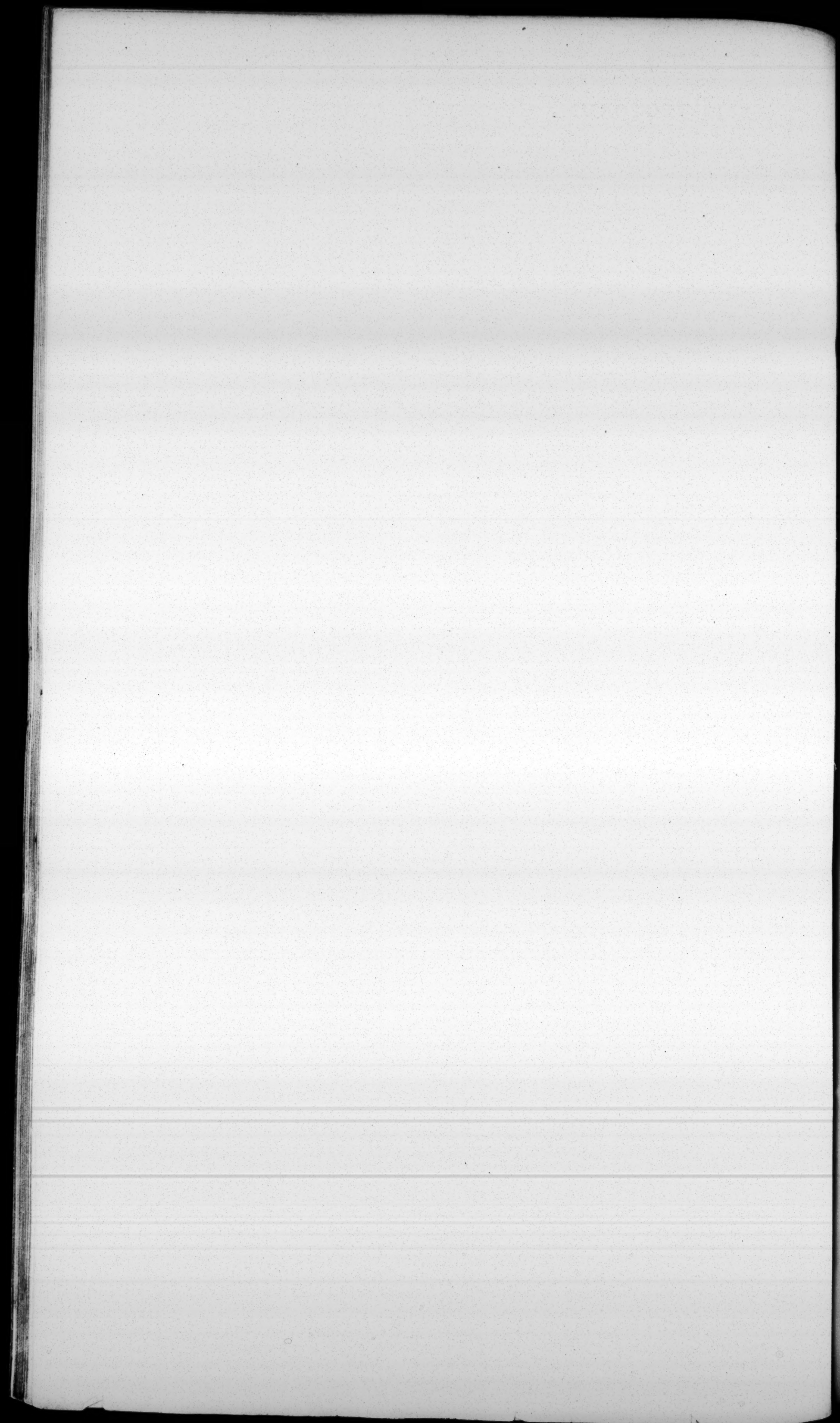
SEEDS twenty or more in each head, brown, and finely grooved; *Down* longer than the seed, sessile, and simple, *fig. 4.*

The great variety of appearances to which this plant is subject, in common with many others of the same class, has occasioned no small confusion among botanists, especially the older ones, who have divided it into several species: even modern botanists, and those of the first character, have confessed the difficulty of distinguishing it in its various states. LINNÆUS exclaims, *Nulla planta hac vulgatior, nulla magis structura et facie varians, nulla magis confusis synonymis.* HALLER writes, *Insuperabiles tenebræ synonyma obducunt:* and SCOPOLI says, *Melius dicretur Crepis VARIA.*

Perhaps nothing short of repeated observation will enable a botanist to distinguish the same plant in its various states, especially such as are subject to such unusual variations; yet there is frequently some character not liable to be altered by difference of soil and situation, which, if pointed out, will be of great service in directing those who may not have plants constantly before them. RAY observes, that the flowers, heads, and seeds of this plant are smaller than those of any other English Hawkweed, the *Hyoseris* excepted (he might have added the *Hypocheris glabra*). To the smallness of the flowers, &c. may be joined the structure of the calyx and the stem-clasping leaves; and when it is known to be a plant growing generally in this country on dry banks, in pastures, and on walls, we flatter ourselves there will be little difficulty, with the assistance of our figure, which represents the plant of its medium size, in distinguishing it at all times.

It flowers from June to September.

Mr. HUDSON has thought proper to remove it from the genus *Crepis* of LINNÆUS, with which it must be owned it does not well accord, and make it an *Hedypnois*; yet it does not very well agree with the character he himself has given of that genus; for the pappus can scarcely be said to be subplumosus, unless very highly magnified.







Hieris echinoides

Linnaeus

PICRIS ECHIOIDES. OX-TONGUE.

PICRIS *Linnaei. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

Recept. nudum. Cal. calyculatus. Pappus plumosus. Sem. transversim fulcata.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO; NATURA PLENO LACTESCENTES.

PICRIS *echioides* perianthiis exterioribus pentaphyllis, interioribus aristato majoribus. *Linnaei. Syst. Vegetab. p. 593. Spec. Plant. 1114.*

HIERACIUM *echioides* capitulis cardui benedicti. *Bauhin. Pin. 128.*

BUGLOSSUM *luteum. Gerard. emac. 798.*

LINGUA BOVIS. *Parkinson. 800. Raii Syn. p. 196, Lang de bœuf.*

Hudson. Fl. Angl. ed. 2. p. 342.

RADIX annua, ramosa.

CAULIS bi aut tripedalis, ramosissimus, ramis divaricatis, erectus, rubens, striatus, spinosus, spinis plurimis, horizontalibus, apice hamatis.

FOLIA amplexicaulia, oblonga, acuta, tuberculosa, spinosa.

PEDUNCULI fulcati, versus apicem sensim incrassati.

CALYX communis duplex, exterior maximus, pentaphyllus, Involucro similis, foliolis cordatis, spinosis, interior imbricatus, squamæ exteriores paucæ, minimæ, inæquales, interiores erectæ, æquales, aristatæ, *fig. 1, 2, carinatæ, carinâ cum aristâ hispidis, setæ inferiores unculis quatuor apice instructis, fig. 3, superiores spinosæ, simplices, longiores.*

COROLLA composita, *Corollulæ* hermaphroditæ, tubulosæ, flavæ; Tubus tenuis, pilosus, *fig. 4,* albidus; Limbus quinque-dentatus, dentibus inæqualibus.

STAMINA: FILAMENTA quinque, capillaria, brevissima: ANTHERÆ in tubum tenuem, flavum, coalitæ.

PISTILLUM: GERMEN oblongum, læve, album: STYLUS filiformis, antheris longior: STIGMATA duo, reflexa.

SEMEN oblongum, rufum, transversim minutissime striatum.

PAPPUS stipitatus, pilosus, *fig. 5.*

ROOT annual, and branched.

STALK two or three feet high, very much branched, (the branches divaricating,) upright, of a reddish purple colour, striated, and spinous, the spines numerous, horizontal, and hooked at the extremity.

LEAVES embracing the stalk, oblong, pointed, covered with tubercles and spines.

FLOWER-STALKS grooved, and gradually enlarged towards the extremity.

CALYX common to many florets, and double; the exterior one large, and composed of five heart-shaped prickly leaves, which resemble an Involucrum; the inner one imbricated; the outermost scales few, small, and uneven; the innermost upright, equal, terminating with an arista, *fig. 1, 2, keeled, the keel together with the arista hispid, the little spines on the lower part terminating in four small hooks, fig. 3, those on the upper part simple and longer.*

COROLLA compound; the *Florets* hermaphrodite, and yellow; the Tube slender, hairy, *fig. 4,* and whitish; the Limb terminated by five unequal teeth.

STAMINA: five FILAMENTS, very fine and short: ANTHERÆ united in a slender, yellow tube.

PISTILLUM: GERMEN oblong, smooth, and white. STYLE thread-shaped, and longer than the antheræ: STIGMATA two, turning back.

SEED oblong, of a reddish orange colour, very finely striated transversely.

DOWN standing on a foot-stalk, and hairy, *fig. 5.*

THE only use to which we find this singular plant to have been applied, is as a pot-herb. *Raii. Hist. p. 233.* to which purpose its appearance is certainly no recommendation.

It grows not unfrequently on banks, on the edges of fields, and in woods that have been cut down; and flowers in June and July.







Hieracium umbellatum.

Edw. Smith del.

HIERACIUM UMBELLATUM. BUSHY HAWKWEED.

HIERACIUM. *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. nudum. Cal. imbricatus, subinde calyculatus, ovatus. Pappus simplex, sessilis.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

HIERACIUM *umbellatum* foliis linearibus subdentatis sparsis, floribus subumbellatis. *Linn. Syst. Vegetab. p. 719. Sp. Pl. p. 1131. Fl. Suec. 704. Hall. Hist. n. 34.*

HIERACIUM *majus angustifolium. Clus. Hist. 2. p. 40.*

HIERACIUM *fruticosum angustifolium majus. Baub. Pin. 129. Park. 801.*

HIERACIUM *primum. Dod. Pempt. p. 638.*

HIERACIUM *Intybaceum. Ger. Herb. p. 234. f. 6. Endives Haukeweede, emac. n. 298. f. 5.*

PULMONARIA *angustifolia glabra. Petiv. H. B. 13. 11.*

PULMONARIA *graminea. Petiv. H. B. 13. 12. Raii Syn. p. 168. Narrow-leav'd bushy Hawkweed. Hudfon Fl. Angl. ed. 2. p. 346. Lightfoot Fl. Scot. p. 439.*

RADIX perennis, fibrosa, fibris longis, simpliciusculis, undique divergentibus, fuscis.

ROOT perennial, fibrous, fibres long, mostly simple, spreading on all sides, of a brown colour.

CAULIS pedalis, ad tripedalem et ultra, erectus, foliosus, rigidus, viridi-purpurascens, inferne lævis, simplex, superne scabriusculus, ramifusus; sæpe gibbo insigni ab insecto quodam formato deformis.

STALK from one to three feet high or more, upright, leafy, rigid, of a greenish purple colour, below smooth, simple, above roughish and branched, often deformed by one or more tubercles occasioned by some insect.

FOLIA numerosa, sparsa, erectiuscula, sessilia, linearia, aut lanceolato-linearia, plus minus remote et obsolete dentata, nonnunquam integerrima, venosa, supra lævia, subtus scabriuscula, margine setulis rigidis ciliata.

LEAVES numerous, placed in no regular order, somewhat upright, sessile, linear, or lanceolate-linear, more or less remotely and faintly toothed, sometimes perfectly entire, veiny, above smooth, beneath roughish, edged with minute rigid hairs.

FLORES majusculi, lutei, in pedunculis ramosis.

FLOWERS rather large, yellow, on branched flower-stalks.

PEDUNCULI varie divisi, inæquales, umbellas spurias subinde representantes, superne parum incrassati, squamula foliosa una alterave instructi.

PEDUNCLES variously divided, unequal, sometimes representing a sort of umbel, above slightly thickened, furnished with one or more leafy scales.

CALYX ovatus, basi parum ventricosus, e livido aut nigricante virens, imbricatus, foliolis exterioribus reflexis.

CALYX ovate, bellying out somewhat at the base, of a livid or dusky green colour, imbricated, the outer leaflets or scales turned back.

COROLLA: composita, æqualis; COROLLULÆ hermaphroditæ, monopetalæ, ligulatæ, truncatæ, quinque-dentatæ, fig. 1.

COROLLA: the general one compound and equal; the FLORETS hermaphrodite, monopetalous, ligulate, truncated, and five-toothed, fig. 1.

STAMINA: FILAMENTA 5, capillaria, intra tubum Corollæ; ANTHERÆ in cylindrum coalitæ, fusco-luteæ.

STAMINA: five capillary FILAMENTS, within the tube of the Corolla; ANTHERÆ forming a cylinder, of a brownish yellow colour.

PISTILLUM: GERMEN subovatum; STYLUS filiformis, flaminibus longior; STIGMATA duo, recurva, fig. 2.

PISTILLUM: GERMEN somewhat ovate; STYLE filiform, longer than the stamina; STIGMATA two, turned back, fig. 2.

SEMINA oblonga, nigricantia; PAPPUS simplex, sessilis, lutescens, fig. 3.

SEEDS oblong, blackish; DOWN simple, sessile, yellowish, fig. 3.

The *Hieracium umbellatum* grows on dry, sandy, or gravelly heaths, and in uncultivated places near London: in such situations, and in such only, we have observed it about Hampstead, Barnet, and Charlton; in the old sand pits near the bottom of the lane leading down from Charlton-Church, on the left-hand side, it may be found in great plenty.

It varies in size, from one to three feet or more; in the smaller specimens the leaves are more entire, frequently altogether so, and the stalk is sometimes simple and uniflorous; in the larger ones the stalk is much branched, and the leaves are more toothed, or jagged, when cultivated in a garden, where it grows most readily: it loses in common with most of the plants of the same class, its natural character, and especially its umbellated appearance, which indeed it rarely has in perfection; the most obvious character of the species consists in the narrowness of its leaves.

It flowers in August and September.

Its stalks are very frequently beset with gouty tubercles of various forms and sizes, which contain within them a number of small maggots, in different cells, and which most probably produce some species of Cynips.

LINNÆUS notices its being used in Scania as a dye, communicating to woollen an elegant and beautiful colour, *Fl. Suec.*







Hieracium Pilosella.

HIERACIUM PILOSELLA. MOUSE-EAR.

HIERACIUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. nudum. *Cal.* imbricatus, ovatus. *Pappus* simplex, sessilis.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

HIERACIUM *Pilosella* foliis ovatis integerrimis tomentosis, stolonibus repentibus, scapo unifloro. *Lin. Syst. Vegetab.* p. 597. *Sp. Pl.* p. 1125. *Fl. Suec.* n. 697.

HIERACIUM caule unifloro, stolonibus reptantibus, foliis petiolatis, ovatis, longe pilosis, subtus tomentosis. *Haller. Hist.* n. 53.

HIERACIUM *Pilosella.* *Scopoli Fl. Carniol.* n. 966.

PILOSELLA major repens hirsuta. *Baub. Pin.* 262.

PILOSELLA minor vulgaris repens. *Parkinson,* 690.

PILOSELLA repens. *Ger. emac.* 638. *Raii Syn.* p. 170. Common creeping Mouse-ear. *Hudson Fl. Angl.* p. 343. *Lightfoot Fl. Scot.* p. 436.

RADIX perennis, fibrosa, fibris pallide fuscis.

FOLIA petiolata, ovata, sæpe oblonga, integerrima, superne virentia, scabriuscula, inferne alba, tomentosa, utrinque pilis longis obsita, e centro foliorum ad basin caulis, oriuntur stolones teretes, repentes, hirsuti, foliosi, foliis ut plurimum lanceolatis.

SCAPUS: ex una planta seu rosula exsurgit scapus plerumque solitarius, palmaris, spithameus et ultra, erectus, teres, nudus, fistulosus, inferne pilosus, superne hirsutus, uniflorus.

FLORES pallide lutei, seu sulphurei, extimis flosculis inferne purpurascens.

CALYX communis imbricatus, squamis pluribus, linearibus, valde inequalibus. *fig. 1, 2.* hirsutis, pilis nigricantibus, ad lentem globiferis.

COROLLA composita, imbricata, uniformis; *Corolulis* hermaphroditis, numerosis, æqualibus; *propria* monopetala, *Tubus* pappo longior, albus, lanatus. *Limbus* planus, quinque-dentatus longitudine tubi. *fig. 3, 4.*

STAMINA: FILAMENTA quinque capillaria, brevissima. ANTHERÆ in tubum cylindricum, flavum coalitæ. *fig. 5.*

PISTILLUM: GERMEN oblongum. STYLUS filiformis, longitudine staminum. STIGMATA duo, revoluta. *fig. 6.*

SEMEN oblongum, nigricans, striatum. *Pappus* semine duplo longior, sessilis, simplex, *fig. 7, 8.*

ROOT perennial, fibrous, the fibres of a pale brown colour.

LEAVES standing on foot-stalks, ovate, often oblong, perfectly entire, on the upper side green and roughish, on the under side white and downy, on both sides beset with long hairs, from the center of the leaves, at the base of the stalk, spring one or more round, creeping, hirsute, leafy runners with leaves for the most part lanceolate.

STALK: from a single plant or off-set arises generally one solitary stalk, from four to seven inches or more in height, upright, round, naked, hollow, below hairy, above hirsute, supporting a single blossom.

FLOWERS of a pale yellow or sulphur colour, the outermost florets purplish on the under side.

CALYX: the common Calyx imbricated, the scales numerous, linear, very unequal. *fig. 1, 2.* hirsute, the hairs blackish, and when magnified globular at the extremity.

COROLLA compound, imbricated and uniform, the *Florets* hermaphrodite, numerous, equal, and monopetalous. The *Tube* longer than the pappus, white and woolly. The *Limb* flat, having five teeth, the length of the tube. *fig. 3, 4.*

STAMINA: five capillary FILAMENTS, very short. ANTHERÆ united in a cylindrical, yellow tube. *fig. 5.*

PISTILLUM: GERMEN oblong. STYLE filiform, the length of the stamina. STIGMATA two, rolled back. *fig. 6.*

SEED oblong, blackish, striated. *Down* twice the length of the seed, sessile, and simple. *fig. 7, 8.*

The ancient botanists fancied some similitude betwixt the hairy leaves of this plant and a mouse's ear, whence its name.

Of the whole genus of Hawk-weed this is the most universally common in this country. It delights in dry and exposed situations, which are frequently rendered barren by long continued drought, the sunny bank, the lifeless wall, and arid heath, are often enamelled with its lively flowers, which appear in *May* and *June*, and frequently produce a second crop late in the summer.

It has been received into the shops under the name of *Auricula muris*, and considered as possessing an astringent quality; but at present, in this respect, is but little regarded.

SIMON PAULI discovered on its roots small tubercles, which he considered as the eggs of an unknown insect; these have since proved to be a *Coccus* (*Coccus Pilosella*, *Lin.*) nearly related to the *Coccus polonicus*, an insect used in dying. We have not heard of its having been observed here.





Hypochaeris glabra

London Sculp.

HYPOCHÆRIS GLABRA. SMALL-FLOWERED HAWKWEED.

HYPOCHÆRIS *Linnaei Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

Receptaculum paleaceum. *Cal.* subimbricatus. *Pappus* plumosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

HYPOCHÆRIS *glabra*, calycibus oblongis imbricatis, caule ramofo nudo, foliis dentato-finuatis. *Linn. Syst. Vegetab. p. 601. Sp. Pl. p. 1140.*

HYPOCHÆRIS foliis glabris femipinnatis. *Haller. Catal. Plant. Gotting. p. 421. Hist. Plant. addend ad tom. 1. v. 3. p. 180.*

HIERACIUM minus dentis leonis folio oblongo glabro. *Baubin. pin. 127.*

HYPOCHÆRIS chondrillo folio, parvo flore. *Vaillant. act. 1721. p. 214.*

HIERACIUM parvum in arenosis nascens, feminum pappis dense radiatis. *Raii. Syn. 166.*

HIERACIUM minimum. *Col. ecph. I. 27. ic.*

Hudsen. Fl. Angl. p. 303. ed. 2. p. 347.

Oeder. Fl. Dan. Ic. 424.

Lightfoot. Fl. Scot. p. 442.

RADIX annua, crassitie pennæ coracis, fusiformis, paucis fibrillis instructa, pallide fusca.

FOLIA radicalia plurima, supra terram expansa, longitudine minimi digiti, et ejusdem circiter latitudinis, sinuato-dentata, ad apicem paulo latiora, glabriuscula, margine præsertim pilis hispidulis ciliata, lactescentia; caulina pauca, minima.

CAULES plerumque plures, spithamæi, suberecti, in duos vel tres ramos divisi, glauci, teretes, subnudi.

PEDUNCULI squamosi, sub floribus paululum incrassati.

FLORES minimi, lutei.

CALYX communis, primum cylindraceus, peractâ florescentiâ oblongo conicus, magnus; squamæ læves, imbricatum positæ, ovato-lanceolatae, inæquales, apicibus rubris.

COROLLA composita, imbricata, uniformis; corollulis hermaphroditis, aequalibus, numerosis; propria monopetala, tubus infundibuliformis, apice hispidulus, fig. 3; limbus planus, quinquedentatus, fig. 2.

STAMINA: FILAMENTA quinque, in tubum coalita, fig. 4.

PISTILLUM: GERMEN infra corollam propriam, fig. 6: STYLUS filiformis, longitudine staminum: STIGMATA duo reflexa, fig. 5.

RECEPTACULUM paleaceum, paleæ concavæ, lanceolatae, acuminatae, nitidæ, longitudine pappi, deciduæ, fig. 1.

SEMINA sublinearia, basi acuminata, castanea, fig. 7, lente visa lineata, scabra, fig. 8, in radio sessilia, in disco petiolata.

PAPPUS inæqualis, plumosus, rigidulus, fig. 9.

ROOT annual, about the thickness of a crow quill, tapering, furnished with few fibres, of a pale brown colour.

LEAVES of the root numerous, spread on the ground, about the length of the little finger, and of the same breadth, sinuated, or deeply indented, a little broadest at top, smooth, but not perfectly so, the edges particularly, being thinly beset with stiffish hairs; those on the stalk few, and very minute.

STALKS usually several, about seven inches high, nearly upright, divided into two or three branches, round, almost naked, and of a glaucous colour.

FLOWER-STALKS scaly, a little thickened under the flower.

FLOWERS very small, and yellow.

CALYX common to many flowers, at first cylindrical, when the flowering is over, becoming of an oblong conical shape, and large; the scales smooth, placed one over another, of an oval pointed shape, uneven, the tips red.

COROLLA compound, the florets placed one over the other, of an uniform shape, hermaphrodite, equal, and numerous; each floret monopetalous; the tube funnel-shaped, with a few stiffish hairs at top, fig. 3; the limb flat, with five teeth, fig. 2.

STAMINA: five FILAMENTS united into a tube, fig. 4.

PISTILLUM: GERMEN placed beneath each single floret, fig. 6: STYLE thread-shaped, the length of the stamina: STIGMATA two, bending back, fig. 5.

RECEPTACLE chaffy, chaff hollow, narrow, pointed, shining, the length of the down, and deciduous, fig. 1.

SEEDS nearly linear, tapering to a point at bottom, of a chestnut colour, fig. 7, viewed with a magnifier, finely grooved, and rough, fig. 8, those in the circumference sessile, those in the center standing on foot-stalks.

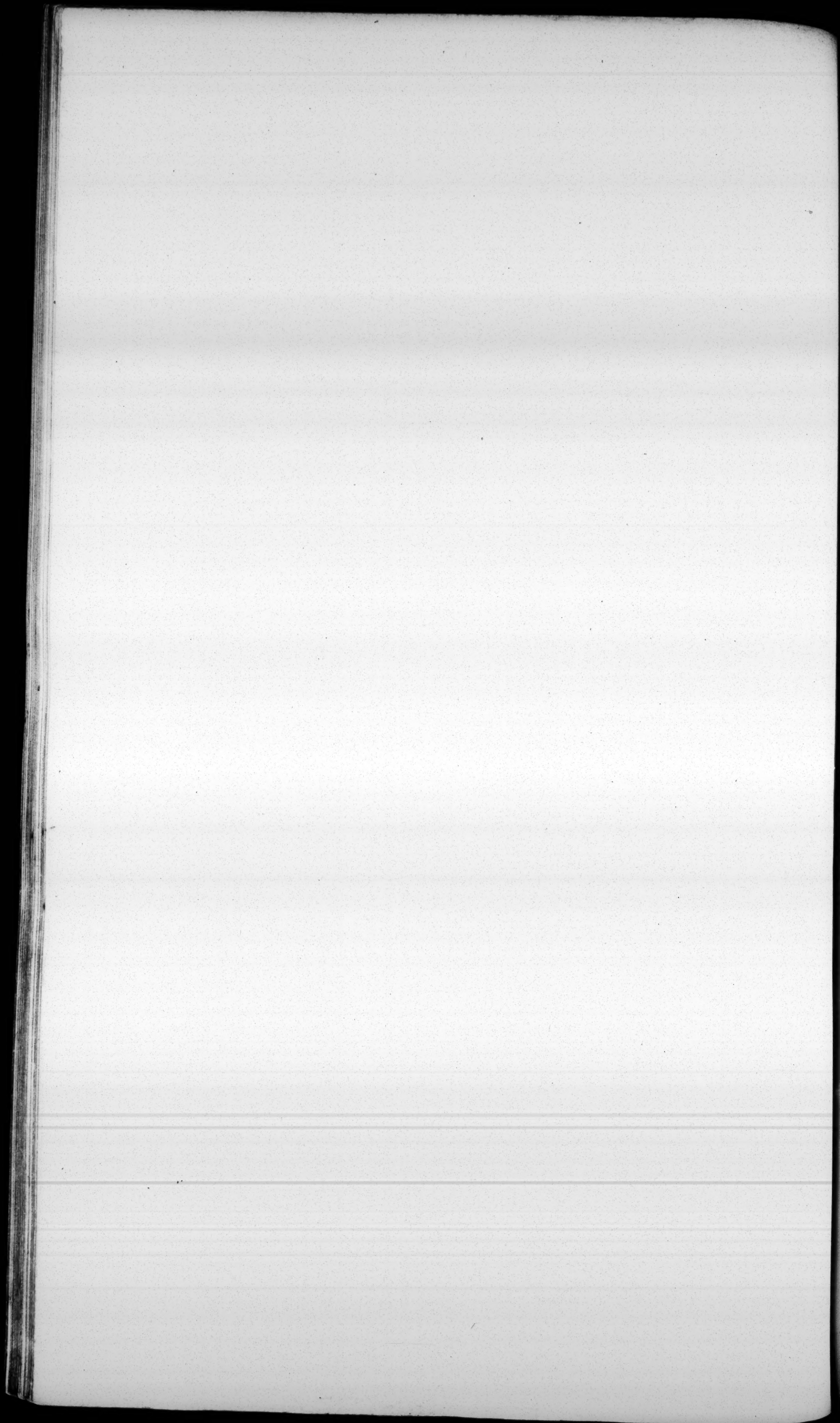
DOWN uneven, feathered, and stiffish, fig. 9.

In the third edition of RAY's *Synopsis*, there is an accurate account given of this plant, which he informs us, he omitted in his *Hist. Plant.* not being certain at that period, whether it was not a variety of some other plant of the same family. It must be admitted, that many of the plants of this class, very much resemble one another at first sight, whence the student is apt to consider them as a difficult tribe: but however strongly the objection of a similarity of habit may be urged against the *Hypochaeris glabra*, whoever has once seen it in blossom, will never mistake it for any other; the flowers being remarkably small for a plant of this kind, not exceeding the size of a silver threepence, while the heads containing the seeds, are altogether as large in proportion to the size of the plant. This similarity of habit, may be one cause why this plant is not oftener found; but a more particular one, perhaps, is the short time of the flowers expansion, as it does not open till about nine of the clock in the morning, and shuts again about one or two in the afternoon.

HALLER's account of the seeds of this plant is very just: those in the center have foot-stalks, and those in the circumference none; hence this plant unites those genera, whose characters are drawn from this circumstance.

I have found this species of *Hypochaeris* in tolerable abundance on *Black-heath*, particularly under Greenwich Park Wall, on the South-side. By RAY it is mentioned to grow, on the authority of DOODY, in the fields between Kingston and Richmond; by Mr. HUDSON, about Bristol; near Norwich, by Mr. PITCHFORD; and in Scotland, though rarely, by Mr. LIGHTFOOT.

It delights in a gravelly or sandy soil, and exposed situation; and flowers in June.







Hypochaeris radicata

Simon L. L.

HYPOCHÆERIS RADICATA. LONG-ROOTED HAWKWEED.

HYPOCHÆERIS *Lin. Gen. Pl. SYNG. POLYGAMIA EQUALIS. Recept. paleaceum. Cal. subimbricatus. Pappus plumosus.*

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

HYPOCHÆERIS *radicata foliis runcinatis obtusis scabris, caule ramoso nudo lævi, pedunculis squamosis. Lin. Sp. Pl. p. 1140. Fl. Succic. n. 709.*

HYPOCHÆERIS *foliis semipinnatis hirsutis, caule nudo, brachiato. Haller. Hist. p. 3. n. 3.*

ACHYROPHORUS *radicatus. Scopoli. Fl. Carn. n. 987.*

HIERACIUM *Dentis leonis folio obtuso majus. Bauhin. pin. 127.*

HIERACIUM *longius radicatum. Lob. ic. 238. Gerard. emac. 298. Parkinson. 790. Raii. Syn. long rooted Hawkweed.*

Hudson. Fl. Angl. ed. 2.

Oeder. Fl. Dan. ic. 150.

Lightfoot Fl. Scot. p. 443.

RADIX *perennis, crassitie digiti minimi, alte in terram descendens, albida, plerumque simplex, lactescens.*

FOLIA *radicalia, supra terram expansa, planiuscula, oblonga, obtusa, sinuato-dentata, dentibus subobtusis, hirsuta, pilis simplicibus, erectis, e punctis prominulis prodeuntibus, caulina nulla.*

CAULES *sæpe plures ex eadem radice, pedales aut bipedales, suberecti, nudi, squamis solum brevibus, ovato-acutis, ciliatis, ad exortum ramorum instructi, glaberrimi, glauci, substriati, tenaces, solidi, ramosi.*

PEDUNCULI *longi, squamis paucis obsiti, versus apicem paululum incrassati.*

CALYX *communis imbricatus, squamis ovatis, acutis, glabris, apice rufis, carinâ ciliatâ pilis rigidulis. fig. 1.*

COROLLA *Composita, imbricata; Corollulis hermaphroditis, æqualibus, numerosis, Propria monopetala, ligulata, truncata, quinque-dentata, tubo apice piloso. fig. 2. 3.*

STAMINA: FILAMENTA *quinque, capillaria; ANTHERÆ in tubum coalitæ, flavæ.*

PISTILLUM: GERMEN *ovatum; STYLUS filiformis, longitudine Staminum; Stigmata duo, reflexa.*

SEMEN *oblongum, rufum, striatum. fig. 5,*

PAPPUS *stipitatus, plumosus.*

RECEPTACULUM *paleaceum, paleæ longæ, nitidæ, membranaceæ, concavæ. fig. 4.*

ROOT *perennial, the thickness of the little finger, running deeply into the earth, generally simple, of a whitish colour, and milky within.*

LEAVES *next the root expanded on the ground, flat-tish, oblong, obtuse, sinuated and toothed (the teeth bluntish,) hirsute, the hairs simple, upright, and proceeding from little prominent points; stalk leaves none.*

STALKS *often several from the same root, one or two feet high, nearly upright, naked, instead of leaves having only short, oval, pointed scales, edged with hairs at the sitting on of the branches, very smooth, glaucous, somewhat striated, tough, solid, and branched.*

FLOWER-STALKS *long, beset with a few scales, towards the top a little thickend.*

CALYX *common to many florets, composed of scales which are of an oval shape, pointed, smooth, reddish at top, the keel edged with stiffish hairs. fig. 1.*

COROLLA *Compound, the florets laying one over another, hermaphrodite Florets equal and numerous; each Floret monopetalous, tubular at bottom and spreading at top, cut off at the extremity and terminating in five teeth, the tube hairy at top. fig. 2. 3.*

STAMINA: five FILAMENTS, *very fine; ANTHERÆ uniting in a tube, of a yellow colour.*

PISTILLUM: GERMEN *oval; STYLE thread-shaped, the length of the Stamina; STIGMATA two, turning back.*

SEED *oblong, reddish and finely grooved. fig. 5.*

DOWN *standing on a foot-stalk and feathery.*

RECEPTACLE *chaffy, chaff long, shining, membranous, and hollow. fig. 4.*

THIS species of *Hypochaeris* receives its name of *radicata* from the length of its root, by which it is particularly distinguished from the *Leontodon autumnale* LINN: or *Hieracium radice succisa* of BAUHIN, in its fructification it agrees with the *Hypochaeris glabra* already figured, size excepted, the same membranous *Paleæ* so observable in that plant serve equally to characterize the genus in this species, which is altogether as common with us as the other is scarce.

It grows on dry Banks, also on Heaths, in Meadows and Pastures, and in the early part of the Summer its blossoms render it a very conspicuous plant in those situations.

In barren soils particularly on Heaths it is much smaller than the plant here figured, but its hairiness and the size of its blossoms will always prevent its being mistaken for the *Hypochaeris glabra*.





Lapsana communis.

LAPSANA COMMUNIS. NIPPLEWORT.

LAPSANA *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Receptaculum nudum. *Cal.* calyculatus, squamis singulis interioribus canaliculatis.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURA PLENO LASTESCENTES.

LAPSANA *communis* calycibus fructus angulatis pedunculis tenuibus ramosissimis. *Linnaei Syst. Vegetab.* p. 602. *Sp. pl.* 1141. *Fl. Suecic.* p. 277.

LAMPSANA caule brachiato; foliis ovatis longe petiolatis; petiolis pinnatis. *Haller hist. n.* 6.

LAMPSANA *communis.* *Scopoli Fl. Carniol. n.* 988.

SONCHO affinis Lampsana domestica. *C. Baubini pin. p.* 124.

LAMPSANA *Gerard. emac.* 255.

LAMPSANA vulgaris. *Parkinson* 810. *Raii Syn.* 173. *Hudson Fl. Angl. p.* 303.

RADIX annua, simplex, fibrosa.

CAULIS erectus, rigidus, bicubitalis, striatus, ramosus, hirsutus.

FOLIA opposita, hirsutula, ad radicem et in ima parte caulis uno vel altero pinnularum pari donata, segmento terminali magno, ovato, dentato, superiora oblonga, dentata.

CALYX: communis calyculatus, angulatus, lævis, squamæ ad basin minimæ erectæ, *fig.* 1.

COROLLA composita, imbricata, Corollulis hermaphroditis æqualibus; *propria* monopetala, ligulata, truncata quinque dentata, *fig.* 2.

STAMINA: FILAMENTA quinque capillaria, brevissima; ANTHERÆ cylindræca tubulosa, *fig.* 2.

PISTILLUM: GERMEN oblongiusculum; STYLUS filiformis, longitudine Staminum; STIGMA bifidum, reflexum, *fig.* 2.

SEMINA circiter octodecem, oblonga paululum incurvata, pappo destituta, intra calycem, *fig.* 3, 4.

ROOT annual, simple, and fibrous

STALK upright, rigid, about two cubits high, striated, branched, hairy.

LEAVES opposite, somewhat hairy, at the root, and on the lower part of the stalk furnished with one or two pair of pinnulæ; the segment which terminates the leaf large, oval, and indented; the upper leaves oblong and indented.

CALYX; the common Calyx smooth, and furnished at bottom with a few minute, upright squamulæ, *fig.* 1.

COROLLA compound, imbricated, the floscules hermaphrodite and equal; each of them monopetalous, ligulate, truncated, and having five teeth, *fig.* 2.

STAMINA: five small and very short FILAMENTS; ANTHERÆ uniting into a tube, *fig.* 2.

PISTILLUM: GERMEN oblong; STYLE filiform, the length of the Stamina: STIGMA bifid and turning back, *fig.* 2.

SEEDS about eighteen, oblong, a little bent in, without any down, contained within the Calyx, *fig.* 3, 4.

In gardens as a weed, this plant answers very well to the name of *communis*, being in general too common. Nature seems amply to have supplied the want of pappus or down in the seeds, by the great number of them produced in each plant. It also occurs on the sides of banks, and in all cultivated ground; flowering during most of the Summer months.

According to RAY it receives its name of *Nipplewort* from its efficacy in curing sore nipples: no other virtues or uses seem attributed to it.





Cichorium Intybus.

CICHORIUM INTYBUS. BLUE SUCCORY.

CICHORIUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. subpaleaceum. *Cal.* calyculatus. *Pappus* sub-5-dentatus, obsolete pilosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

CICHORIUM *Intybus* floribus geminis sessilibus, foliis runcinatis. *Lin. Syst. Vegetab.* p. 602. *Sp. Pl.* p. 1142. *Fl. Suec.* n. 711.

CICHORIUM foliis pinnatis, pinnis triangularibus dentatis, floribus sessilibus. *Haller Hist.* 1.

CICHORIUM *Intybus.* *Scopoli Fl. Carn.* n. 991.

CICHORIUM sylvestre five officinarum. *Baubin Pin.* 126.

INTYBUS sylvestris. *Camer. epit.* 285.

CICHORIUM sylvestre. *Ger. emac.* 284. *Parkinsf.* 776. *Raii Syn.* p. 172. Wild Succory. *Hudson Fl. Angl. ed. 2.* p. 348.

RADIX perennis, externe lutescens, fusiformi-cylindrica, etiam ramosa, crassitie digiti, spithamæa, sæpe pedalis, descendens, fibrillosa, fibrillis sparsis, lactescens, lacte albo.

CAULIS pedalis, ad tripedalem, erectus, rigidus, tortuosus, scabridus, plerumque ramosissimus.

FOLIA radicalia plurima, taraxaci, subaspera, caulina læviora, subamplexicaulia, alterna.

FLORES plerumque bini, speciosi, sessiles, e foliorum supremorum alis.

CALYX communis calyculatus, squamis exterioribus quinque, ovatis, acutis, subpatentibus, pilis glanduliferis ciliatis; interioribus octo circiter, lineari-lanceolatis, æqualibus, cylindrum angulosum, viscosum, constituentibus. *fig. 1, 2, 3, 4.*

COROLLA composita, plana, uniformis, Corollulis hermaphroditis, viginti circiter, cæruleis, *Tubus* cylindricus, brevis, albus, apice dilatatus et pilosus; *Limbus* planus, quinque-dentatus, subtus nervosus et villosus. *fig. 5.*

STAMINA: FILAMENTA quinque alba, capillaria, manifeste libera; **ANTHERÆ** saturate cæruleæ, in tubum cylindricum, angulatum coalitæ. *fig. 6.*

PISTILLUM: GERMEN subconicum, album, pilis brevissimis coronatum; **STYLUS** filiformis, albus; **STIGMATA** duo, cærulea, revoluta. *fig. 7.*

SEMINA plurima, in fundo calycis, nuda, subpentagona, margine pilis brevissimis ciliata. *fig. 8.* auct.

ROOT perennial, externally of a yellowish colour, tapering very gradually to a point, also branched, the thickness of the finger, a span, and often a foot in length, striking downward, furnished with few small fibres, milky, the milk of a white colour.

STALK from one to three feet in height, upright, rigid, crooked, roughish to the touch, and generally very much branched.

LEAVES at the root numerous, like those of Dandelion, roughish, those of the stalk smoother, alternate, partly surrounding the stem.

FLOWERS growing generally in pairs, showy, sessile, springing from the axæ of the uppermost leaves.

CALYX common to many florets, composed of a double set of squamæ or leaves, the outermost of which are five in number, ovate, pointed, somewhat spreading, edged with glandular hairs, the innermost about eight, narrow, equal, forming an angular, clammy cylinder. *fig. 1, 2, 3, 4.*

COROLLA compound, flat, regular, Florets hermaphrodite, about twenty in number, of a blue colour; *Tube* cylindrical, short, white, dilated at top and hairy; *Limb* flat, with five teeth at the extremity, on the under side rib'd and villous. *fig. 5.*

STAMINA: five FILAMENTS, of a white colour, very slender, manifestly unconnected; **ANTHERÆ** of a deep blue colour, forming an angular, cylindrical tube. *fig. 6.*

PISTILLUM: GERMEN somewhat conic, crowned with very short hairs; **STYLE** thread-shaped, white; **STIGMATA** two, of a blue colour, and rolled back.

SEEDS numerous in the bottom of the calyx, naked, irregularly five cornered, the edge crowned with very short hairs. *fig. 8.* magnified.

That beautiful plants are often noxious weeds, agriculturally considered, we have already noticed in the Bistort, the field Convolvulus, the corn Poppy, and the perennial Persicaria; the blue Succory adds another to the catalogue.

Battersea Fields, which exhibit bad husbandry in perfection, produce this plant most plentifully; it flowers in *July, August* and *September*; like the docks it increases itself much by seed, and is to be extirpated in the same manner.

Some botanists have erroneously supposed this species of Succory to be the Endive in its wild state, but its strong perennial root sufficiently evinces the contrary. The *Cichorium Endivia*, which is an annual or biennial, and grows wild in the Corn-fields of *Spain*, together with the *Intybus**, is undoubtedly the parent of the cultivated *Endive*, it is not so clear which of the two is the plant celebrated by *HORACE* as constituting a part of his simple diet,

— — — me pascunt Olive
Me Cichorea, levesque Malva.

It is not unfrequently found wild with white flowers, and it has been discovered that the fine blue colour of the petals is convertible into a brilliant red by the acid of Ants†; Mr. MILLER the Engraver assured me, that in *Germany* the boys often amused themselves in producing this change of colour by placing the blossoms in an ant hill.

Wild Succory is an useful detergent, aperient, and attenuating medicine; acting without much irritation, tending rather to cool than heat the body, and at the same time corroborating the tone of the intestines. The juice taken in large quantities so as to keep up a diarrhæa, and continued for some weeks, has been found to produce excellent effects in scorbutic and other chronical disorders. *Lewis's Disp.* p. 125.

* *D'Affs Stirp. Arragon*, p. 113.

† *Trag. ad Brunfels.* II. p. 274.





ARCTIUM LAPPA. BURDOCK.

ARCTIUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Cal. globosus; squamis apice hamis inflexis.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLORIBUS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

ARCTIUM *Lappa* foliis cordatis inermibus petiolatis. *Lin. Syst. Vegetab.* p. 603. *Sp. Pl.* 1143. *Fl. Suec.* n. 712.

LAPPA *Haller Hist.* n. 161.

LAPPA major seu Arctium Dioscoridis. *Bauh. Pin.* 198.

PERSONATA five Lappa major aut Bardana. *J. B. III.* 570.

BARDANA major. *Ger. emac.* 809.

BARDANA vulgaris major. *Park.* 1222. *Raii Syn.* 197. Great Burdock, Clot-burr. *Hudson. Fl. Angl. ed. 2.* p. 348. *Lightfoot Fl. Scot.* p. 197. *Oeder Fl. Dan.* t. 642.

RADIX biennis, simplex, profunde in terram descendens, foris nigricans, intus alba.

CAULIS erectus, tripedalis et ultra, crassitudine pollicis, ad basin usque ramosissimus, teres, striato-fulcatus, villosus, purpurascens.

FOLIA amplissima, petiolata, alterna, cordata, subtus albida, venosa, margine subundulatâ, crenulatâ.

PETIOLI foliis breviores, sulcato-angulati, villosi.

FLORES purpurei, pedunculati, erecti, ramulis alterne dispositi, superne in capitula laxa collecti.

CALYX communis globosus, imbricatus, glaber, filis araneosis intertextus, squamis exterioribus apice hamatis, hamis nitidis, acutissimis, subinflexis, *fig. 1, 2.* interioribus linearibus, apice vivide purpureis, simplicibus, sine hamis.

COROLLA composita, calyce longior, tubulata, *propria* infundibuliformis, tubo filiformi, albo, limbo tubuloso-campanulato, purpureo, quinque-fido, acuto, erecto.

STAMINA: FILAMENTA quinque alba, capillaria; ANTHERÆ carulescentes, aut violaceæ, in tubum extra corollam coalitæ.

PISTILLUM: GERMEN subtriquetrum, album, incurvatum; STYLUS albus, staminibus longior, utrinque fulcatum; STIGMA bifidum.

SEMINA oblonga, basi attenuata, punctis prominentibus coronata, compressa, subangulata, reticulato-rugosa, exterioribus incurvatis. *Pappus* obfoletus, rigidulus. *fig. 3.*

ROOT biennial, simple, penetrating deeply into the earth, externally blackish, internally white.

STALK upright, three feet high and more; the thickness of one's thumb, branched quite down to the bottom, round, grooved, but not deeply, hoary and purplish.

LEAVES very large, standing on footstalks, alternate, heart-shaped, whitish underneath, veiny, the edge somewhat waved and notched.

LEAF-STALKS shorter than the leaves, angular or grooved, and hoary.

FLOWERS purple, standing on footstalks, upright, disposed alternately on the branches, and at the tops of them collected into loose heads.

CALYX common to all the florets globular, imbricated, surface shining, cobwebby, the exterior scales hooked at the extremity, hooks shining, very sharp, and somewhat bent in, *fig. 1, 2.* inner scales linear, tops of a bright purple colour, simple, without hooks.

COROLLA compound, longer than the calyx, tubular, *Florets* funnel-shaped, tube filiform, white, limb tubular, and somewhat bell-shaped, of a purple colour, divided into five upright, pointed segments.

STAMINA: five white capillary FILAMENTS; ANTHERÆ blueish, or violet coloured, united into a tube, which projects beyond the corolla.

PISTILLUM: GERMEN somewhat three-cornered, white, bending inward; STYLE white, longer than the stamina, grooved on each side; STIGMA bifid.

SEEDS oblong, tapering towards the base, crowned with small prominent points, flattened, somewhat angular, surface wrinkly, in the form of net-work, outermost seeds bending inward. *Down* obsolete, somewhat rigid. *fig. 3.*

The antient botanists divided the Burdock, which they distinguished by the several names of *Lappa* * *Personata*, and *Arctium* or *Arcium* into two principal species, viz. the *Lappa major Arcium* *Diosc. C. B.*; and the *Lappa major montana capitulis tomentosif five Arctium* *Diosc. C. B.*; both of which are admirably figured by MATTHIOLUS on wood, as indeed are most of the medicinal plants; later botanists have made the species much more numerous; in the third edition of RAY's *Synopsis* we find no less than six species and one variety, viz.

1. *Lappa major capitulo glabro maximo.*
2. *Lappa major Arcium Dioscoridis.*
3. *Lappa major capitulis parvis glabris.*
4. *Lappa major montana capitulis tomentosif five Arctium Dioscoridis.*

* *Lappa* dici potest vel ἀπὸ τῆς λαλῆναι prehendere vel ἀπὸ τῆς λατῆναι, i. e. lamhere, quod prætereuntium vestibus adhæreat. *Personata* autem dicitur, quod folia ejus prægrandia veluti larvæ aut personæ vice obtendi solita essent. Veteribus *Arctium* aut *Arcium* dicta creditur, verum ratio nominis ignoratur. *Raii Hist.* p. 332.

5. *Lappa major montana*, capitulis minoribus, rotundioribus & magis tomentosis.

6. *Lappa major ex omni parte minor*, capitulis parvis eleganter reticulatis.

Lappa vulgaris major capitulis foliosis. Var.

All these are however considered by the botanists of the present day as one species, to which may be added a variety with white flowers, which often occurs.

The Burdock is a very common plant by way sides, and in waste places, and flowers in July and August.

In the size of its leaves it may sometimes dispute the palm with the Butterburr; painters often introduce them in the foregrounds of their pictures, which they are admirably well calculated to embellish.

No sort of cattle relish the foliage of this plant, but snails, slugs, and many species of caterpillars feed on it deliciously; the pith produces its particular moth, which does not appear to be described by LINNÆUS, but is most accurately figured by SEPP*, and called by Aurelians the *Mottled Orange*, the caterpillar of this moth changes into chrysalis about the beginning of August, during which month it may be found in that state by splitting the stalks of such plants as appear stunted in their growth; the moth comes out about the end of August, and is one of those whose bodies are extremely apt to become greasy, to prevent which the body should be carefully opened on the under side, and its contents taken out previous to its being placed in the cabinet. A small larva, not peculiar to this plant, feeds also betwixt the coats of the leaf.

The seeds, like those of the thistle tribe, are sought for by several of the feathered songsters, and are even recommended to fatten poultry†.

The microscope informs us, *vide fig. 1, 2.* why the burrs adhere so closely to one's cloaths, and why boys, who divert themselves by throwing them at one another, have so much difficulty in extricating them from their hair.

As a weed it is not so formidable as it appears to be, being a biennial the husbandman has only to destroy its seedlings.

The root and stalks are esculent and nutritive; the stalks for this purpose should be cut before the plant flowers, the rind peeled off, and then boiled and served up in the manner of Chardoons, or eaten raw, as a salad, with oil and vinegar. *Lightfoot Fl. Scot. p. 446.*

The seeds have a bitterish, subacid taste, they are recommended as very efficacious diuretics, given either in the form of emulsion or in powder to the quantity of a drachm. The roots taste sweetish, with a slight austerity and bitterishness; they are esteemed aperient, diuretic and sudorific, and said to act without irritation, so as to be safely ventured on in acute disorders. Decoctions of them have of late been used in rheumatic, gouty, and other disorders, and preferred by some to those of Sarsaparilla. *LEWIS'S Disp. p. 101.*

* *Nederlandsche Insecten. t. 3.*

† *Stirp. indig. Aragon. p. 113.*





Carduus tenuiflorus.

CARDUUS TENUIFLORUS. SLENDER-FLOWER'D THISTLE.

CARDUUS. Linn. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.

Calyx ovatus, imbricatus, squamis spinosis. Recept. pilosum.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *tenuiflorus* foliis decurrentibus margine spinosis, ramis strictis, calycibus aggregatis sessilibus oblongo-conicis, squamis erecto-patulis pungentibus.

CARDUUS *acanthoides* foliis decurrentibus pinnatifidis, margine spinosis, calycibus aggregatis sessilibus subcylindricis glabris. Lightfoot Fl. Scot. V. 1. p. 451. Greywelled Thistle.

CARDUUS *acanthoides* foliis decurrentibus sinuato-dentatis, margine spinosis, calycibus ovatis terminalibus aggregatis sessilibus, squamis acuminatis erectiusculis. Hudson Fl. Angl. ed. 2. p. 351. Welled Thistle.

CARDUUS alis caulinis latissimis, foliis semipinnatis, pinnis angulosis, spinosis, floribus longis, fasciculatis. Hall. Hist. 166.

CARDUUS *acanthoides*. J. Bauh. Hist. 3. p. 516.

CARDUUS spinosissimus capitulis minoribus. P. B. Raii Hist. V. 1. p. 309. Syn. ed. 3. p. 194. Welled Thistle with small flowers.

CARDUUS polyacanthos, capitulis longioribus et tenuioribus foliis albicantibus. Morif. Hist. 3. p. 153.

RADIX annua.

CAULIS bi-tripedalis, erectus, basi ramosus, ramis paucis, subelongatis, erectis, strictis, teretiusculis, leviter fulcatis, tomentosis, maxime versus summitates, alatis, alis latis, spinosis.

FOLIA caulina sessilia, decurrentia, venosa, supra glabriuscula, viridia, pilis adpressis albidis obsita, subtus tomentosa, costa albida, margine sinuata, dentata, spinosa, spinis longis, lutescentibus; radicalia ovato-oblonga, obtusa, inciso-lobata, lobis latis, obtusis, confluentibus.

FLORES in ramorum summitatibus congesti, sessiles, parvi, pallide purpurei, aut carnei.

CALYX: *communis* oblongo-conicus, imbricatus, squamis erecto-patulis, lineari-elongatis, spinosis, basi albidis, medio viridibus, apice in spinas lutescentes longitudine flosculorum exeuntibus.

COROLLA composita, tubulosa, uniformis; Corollulæ hermaphroditæ, subæquales, fig. 1.

SEMINA et Pappus eadem fere ut in Card. Polyacanth. fig. 2.

ROOT annual.

STALK from two to three feet high, upright, branched at the base, branches few, long, upright, perfectly straight, roundish, slightly grooved, cottony, particularly towards the tops, winged, wings broad and spinous.

LEAVES of the stalk sessile, decurrent, veiny, above smoothish, green, beset with whitish hairs pressed close, beneath cottony, the midrib whitish, the edge scolloped, toothed, and spinous, spines long and yellowish; radical leaves ovato-oblong, obtuse, divided into lobes which are broad, obtuse, and closing together.

FLOWERS in clusters on the tops of the branches, sessile, small, of a pale purple or flesh-colour.

CALYX: *common* to all the florets of an oblong-conical shape, imbricated, scales upright, spreading at top, long and linear, spinous, whitish at the base, green in the middle, and terminating in yellow spines the length of the florets.

COROLLA compound, tubular and uniform; the Florets hermaphrodite, and nearly equal, fig. 1.

SEEDS and Down nearly the same as in the prickliest Thistle, fig. 2.

J. BAUHINE appears to be the first writer who accurately determined this Carduus, which he calls *acanthoides*; RAY afterwards gave an excellent description of it in his *Hist. Pl.* and MORISON characteristically defined it in his *Hist. Oxon.* LINNÆUS in his *Spec. Pl. ed. 3.* applies J. BAUHINE's name of *acanthoides* to a very different Thistle, our *polyacanthos*, referring to it at the same time the synonyms of J. BAUHINE, RAY, and MORISON, which truly belong to the present species (vid. synon.) and which it is probable LINNÆUS never saw, as it is not a Swedish plant, nor a very general European one; Mr. LIGHTFOOT finding LINNÆUS's description not to accord with our plant, gave a new specific description to it, retaining the name *acanthoides*, and Mr. HUDSON does the same; it may therefore be expected, that we should continue the term *acanthoides* first imposed, and so far properly belonging to it, but we are too friendly to reform so to do, conceiving that the term *tenuiflorus* will almost of itself discriminate the species, while *acanthoides* means comparatively nothing, we make no scruple to change the name.

This thistle is a very common one in the environs of London, growing in the very suburbs; it affects warm, sheltered situations, and is therefore most frequently found at the foot of paling, walls, hedges, and on ditch banks, flowering from June to August: Dr. GOODENOUGH observes to me, that he has found it to be a common plant near the sea side, but rare in the more interior parts of the kingdom; this probably arises from its being a somewhat tender plant.

It is obviously distinguished from all our other Cardui by its upright mode of growth, by the breadth of the wings on its stalks, whence its name of welled, the greyish appearance of its foliage, and, above all, by its long, clustered heads, producing small flowers, of a pale purple or flesh colour, little longer than the very sharp spines of its calyx.

Size excepted, we have not found it subject to much variation.

We often meet with specimens much larger, and with more numerous flowers, than is shewn in our figure, which is not intended to represent the plant in its most luxuriant state.

The Farmer or Gardener have little or no cause to complain of it.







Carduus arvensis

CARDUUS ARVENSIS. CURSED THISTLE.

Linn. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.

Cal. ovatus, imbricatus, squamis spinosis. Receptaculum pilosum.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

CARDUUS *arvensis* foliis sessilibus, incisis, dentatis, spinosis; caule multifloro; radice repente.

SERRATULA *arvensis* foliis dentatis, spinosis. Linn. Syst. Veg. ed. 14. Murr. p. 724. Sp. Pl. 1149. Fl. Succ. 715.

CIRSIUM caule anguloso, ramoso, foliis semipinnatis, pinnis angulosis, spinosis, calycibus longis inermibus. Hall. Hist. 171.

CIRSIUM *arvense*, foliis lanceolatis, dentatis, spinosis; calycinis squamis tomentosis, inermibus, aristatis. Scopoli Fl. Carn. n. 1001.

CARDUUS *vinearum* repens, fonchi folio. Baub. Pin. 387. Ceanothos f, viarum et vinearum repens. Park. 959. vulgarissimus viarum. Ger. emac. 1173. Raii Syn. 194. Common Way-Thistle, or rather Creeping-Thistle. Hudson Fl. Angl. ed. 2. p. 349.

RADIX perennis, teres, crassitie fere digiti minimi, fordide albida, profunde descendens, repens, undique longissime se protendens.

CAULIS tripedalis, et ultra, erectus, subramosus, basi teres, lanuginosus, superne angulatus, lævis.

FOLIA sessilia, alterna, lanceolata, inciso-subpinnatifida, subcompressa, sinuata, undulato-crispata, spinosa, superne lævia, viridia, subtus pallidiora, vix villosiuscula, suprema subintegra.

FLORES pallide purpurei, mediocres, suavissime odorati.

PEDUNCULI foliosi, uniflori, subbiflori, superne subtomentosi.

CALYX communis ovatus, apice contractus, imbricatus, squamis numerosis, appressis, lanceolatis dorso acutis, apice appendiculatis, mucronatis, purpurascens, mucronibus subreflexis, mitibus, fig. 1.

COROLLA: composita, tubulosa, uniformis; Corollulæ omnes hermaphroditæ, subæquales, monopetalæ, infundibuliformes, tubo tenuissimo, limbo quinquefido, reflexo, laciniis linearibus, unica profundius separata, fig. 2.

STAMINA; FILAMENTA 5, capillaria, brevissima, alba; ANTHERA cylindracea, corolla brevior, ore quinque-dentato, dentibus apice albis.

PISTILLUM: GERMEN ovatum, compressum; STYLUS filiformis, staminibus longior, ex albidorubellus; STIGMA obtusum, demum bifidum.

SEMINA linearia, obsolete tetragona; PAPPUS plumosus, sessilis, fig. 4.

RECEPTACULUM pilosum, pilis nitentibus, fig. 5.

ROOT perennial, round, almost the thickness of the little finger, of a dirty white colour, penetrating deeply, and creeping far and wide.

STALK three feet or more in height, upright, somewhat branched, at the base round, and somewhat woolly, above angular, and smooth.

LEAVES sessile, alternate, lanceolate, cut in so as to be somewhat pinnatifid, the sides somewhat pressed together, sinuated, waved and curled, spinous, above smooth, green, beneath paler, scarcely villous, the uppermost ones almost entire.

FLOWERS middle-sized, of a pale purple colour, very fragrant.

FLOWER-STALKS leafy, one or two-flowered, above somewhat woolly.

CALYX common to all the florets ovate, contracted at top, imbricated, the scales numerous, pressed close, lanceolate, sharp at the back, terminated by a pointed appendage, purplish, points turning a little back, and mild, fig. 1.

COROLLA compound, tubular, uniform, all the Florets hermaphrodite, nearly equal, monopetalous, funnel-shaped, the tube very slender, the limb divided into four, linear, reflexed segments, one more deeply divided than the rest, fig. 2.

STAMINA: five capillary FILAMENTS, very short and white; ANTHERÆ united into a cylinder, shorter than the corolla, the mouth 5-toothed, the teeth white at the tips.

PISTILLUM: GERMEN ovate, compressed; STYLE filiform, longer than the stamens, of a whitish red colour; STIGMA obtuse, finally bifid.

SEEDS linear, slightly four-cornered; DOWN feathery, sessile, fig. 4.

RECEPTACLE hairy, hairs glossy, fig. 5.

The several genera of *Carduus*, *Cirsium*, and *Serratula* are in many instances so nearly allied, that Botanists are frequently at a loss for a character which shall discriminate them; without entering at present into a laboured disquisition on this subject, we shall only remark that to whatever genus the *Marsh Thistle* belongs (already figured in this work) this belongs to the same, if that be a Thistle, this must also be one; moreover, independent of the characters to be drawn from the fructification, every one will allow that it has more the habit of a *Carduus* than a *Serratula*.

We have bestowed on this plant the harsh name of *curfed*, with a view to awaken the attention of the agriculturist to its nature and pernicious effects; repeated observation has convinced us that many husbandmen are ignorant of its œconomy, and while they remain so they will not be likely to get rid of one of the greatest pests which can affect their corn-fields and pastures.

Of the Thistle tribe the greatest part are annual or biennial, and hence easily destroyed, some few are not only perennial, but have powerfully creeping roots, and none so much as the present; in pulling this plant out of the ground, we draw up a long slender root which many are apt to consider as the whole of it, but if those employed in such business examine the roots so drawn up, they will find every one of them broke off at the end, for the root passes perpendicularly to a great depth, and then branches out horizontally under ground.

To give an idea of its astonishing increase, we shall subjoin from the memoirs of the Bath Agricultural Society an experiment made for the very purpose of ascertaining it *. When this paper was delivered to the society from experiments then made, I was of opinion that repeated mowing or spudding would not destroy this Thistle, I have since had cause from further observation and experiments to think differently; so deep however does it penetrate that these operations are the only ones which can well be applied to its destruction, and if they do not effectually overcome, they will greatly enfeeble it.

This species is seen every where by road-sides, too frequently in corn-fields, and more rarely in pastures; it flowers from *June* to *August*.

The *Papilio Cardui* feeds on its foliage; the stalks are frequently disfigured by large tubercles, the effect we apprehend of a *Cynips*, and the leaves, especially on the under-side, are sometimes observed of a deep brown colour, as if covered with snuff, the effect of some disease, with the cause of which we are as yet unacquainted.

It varies with white flowers, and the leaves have sometimes few or no spines on them.

* April 1st, 1778, I planted in a garden a piece of the root of this Thistle, about the size of a goose-quill, and two inches long, with a small head of leaves, cut off from the main root just as it was springing out of the ground; by the 2d of the November following this small root had thrown out shoots, several of which had extended themselves to the distance of eight feet, some had even thrown up leaves five feet from the original root; most of the shoots which had thus far extended themselves were about six inches under ground, others had penetrated to the depth of two feet and a half; the whole together when dug up and washed from the earth weighed four pounds. In the spring of 1779, contrary to my expectation, this Thistle again made its appearance on and about the spot where the small piece was originally planted; there were between 50 and 60 young heads, which must have sprung from the roots which had eluded the gardener's search, though he was particularly careful in extracting them.





Carduus polyacanthos.

CARDUUS POLYACANTHOS. PRICKLIEST THISTLE.

CARDUUS. Linn. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.

Calyx ovatus, imbricatus, squamis spinosis. Recept. pilosum.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *polyacanthos* foliis decurrentibus margine spinosis, ramis patulis, calycibus subrotundis laxis, squamis subulatis patentibus subinermibus.

CARDUUS *acanthoides* foliis decurrentibus sinuato-pinnatifidis margine spinosis, calycibus solitariis pedunculatis erectis villosis. Linn. Sp. Pl. ed. 3. p. 1150. Fl. Suec. ed. 2. n. 718. Jacq. Fl. Austr. V. 3. t. 249. *polyacanthos*. Schreb. Lips. p. 15.

CARDUUS *crispus*. Linn. Lightfoot Scot. V. 1. p. 452.

CARDUUS *crispus* foliis decurrentibus sinuatis margine spinosis, calycibus globosis pedunculatis solitariis erectis. Hudson Fl. Angl. ed. 2. p. 350.

CARDUUS caule crispo. J. B. 3. p. 50. Raii Hist. V. 1. p. 309. Syn. ed. 3. p. 194.

CARDUUS spinosissimus angustifolius vulgaris. Baub. Pin. 385. ?

CARDUUS spinosissimus vulgaris Polyacantha. Theophrast. Lob. Ic. 21.

POLYACANTHA Theophrasti. Tabern. Ic. 701.

CARDUUS *polyacanthos* capitulis pluribus nutantibus ramosior. Morif. Ox. III. 153. n. 11.

ONOPORDON. Thistle upon Thistle. Ger. Herb. p. 1010.

CARDUUS *polyacanthos*. The most prickly Thistle. Park. Tb. p. 981. n. 5.

CARDUUS *sylvestris primus*. Dod. p. 739. f. 1. Ger. emac. p. 1173.

RADIX annua, simplex, albida, pluribus fibris capillata.

CAULIS 2-4 pedalis et ultra, erectus, levissime fulcatus, hirsutus, 4-5 fariam alatus, alæ laciniatæ, spinosissimæ, fistulosæ, sæpe usque ad basin ramosus; Rami prælongi, patentes, apice floriferi.

FOLIA sessilia, decurrentia, lanceolata, inciso-lobata, lobis oppositis, sinuato-dentata, crispatula, margine spinosa, supra viridia, subtus albida, hispido-tomentosa.

FLORES mediocres, terminales, plerumque aggregati, purpurei, odorati, sessiles, aut breviter pedunculati, erecti aut subnutantes.

CALYX *communis* subrotundus, laxè imbricatus, squamis subulatis, reflexo-patulis, subtomentosis, mitibus.

COROLLA composita, tubulosa, uniformis, calyce duplo longior; Corollulæ hermaphroditæ, subæquales, reflexæ, fig. 1.

SEMEN oblongum, læve, pallide fuscum, leviter striatum, utrinque obtusum; Pappus simplex, fig. 2. auct. fig. 3.

ROOT annual, simple, whitish, furnished with numerous fibres.

STALK from two to four feet high or more, upright, very slightly grooved, hirsute, furnished with four or five wings, which are jagged and extremely prickly, branched, often to the bottom; Branches very long, spreading, producing flowers at their extremities.

LEAVES sessile, decurrent, lanceolate, cut into lobes, which are opposite, scolloped, toothed, and a little curled, spinous on the edge, above green, beneath whitish, and somewhat woolly.

FLOWERS middle-sized, terminal, for the most part clustered, purple, odoriferous, sessile or standing on short footstalks, upright or somewhat drooping.

CALYX *common* to all the florets, nearly round, loosely imbricated, scales tapering to a point, spreading, and somewhat reflexed, slightly cottony, and harmless.

COROLLA compound, tubular, uniform, as long again as the calyx; Florets hermaphrodite, nearly equal, and reflexed, fig. 1.

SEED oblong, smooth, of a pale brown colour, slightly striated, blunt at both ends; Down simple, fig. 2. magn. fig. 3.

The prickly armour worn by most of the Cardui, renders them a truly formidable tribe; our Northern brethren have chosen the Thistle as an emblem of their motto, "*Nemo me impune lacessit*:" there is however a considerable difference in the strength and number of their spines in different species, in some they are so few, and those so short, and soft, that the plant may be handled with perfect safety; while in others they are so sharp, and so completely beset every part of the plant, that it cannot even be touched without the greatest caution: of the latter kind is the present species, which divers of the ancient Botanists distinguished by the name of *polyacanthos* (*many spined*) a word, in its strict sense applicable to various other species; but by this expression they doubtless meant prickly in the extreme, *quasi spinosissimus*, conformable to which is the old English name of *Thistle upon Thistle*. On comparing this species with all our English Thistles, as they grew together in my garden, I found that the spines in this were actually more numerous than in any of the rest, though the *palustris* was not much inferior to it in point of number; the term, therefore, as far as regards our English Thistles, is founded in propriety.

Professor SCHREBER, author of the best treatise on Grasses the world ever saw, of the eighth edition of the *Genera Plantarum* of LINNÆUS, and of many other inestimable treatises in Botany and Natural History, in treating of this Thistle, has adopted the above-mentioned name of *polyacanthos*; he regards it at the same time as the *acanthoides* of LINNÆUS, which name he relinquishes, because he considers it as more properly belonging to the *acanthoides* of J. BAUHINE (our *tenuiflorus*).

This species is very common in the environs of London, by the sides of roads, on the borders of fields, and under hedges, flowering from June to September: it is sometimes found with white flowers, and according to situation is observed to vary in size from two to five or more feet, to be more or less hairy, and to have its flowers more or less clustered.

In its general appearance it approaches near to the *palustris*, with which students are apt to confound it, and from which it may be distinguished in various ways: its place of growth serves to discriminate it, as it affects dry, not moist situations, in which alone the *palustris* is found; it is more branched, and the extreme flowering branches are more bowed or bent downwards, as our figure represents; but this character is not to be depended on solely, they being often perfectly upright, as figured by Professor JACQUIN: the Calyx affords the most unerring mark of distinction between the two, the scales in that of the *palustris* are closely imbricated, as in the *arvensis*, *acaulis*, and some others, while in the present plant they are loose, much resembling those of the Burdock, and almost as harmless; RAY, who has described it most admirably, observes also, that the flowers are more odoriferous.

We last summer observed the larva of the *Papilio Cardui*, feeding abundantly on its foliage. In an agricultural point of view, it is scarcely worth noticing, being an annual, and seldom abounding either in fields or gardens.







Carduus palustris.

CARDUUS PALUSTRIS. MARSH THISTLE.

CARDUUS *Lin. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

Cal. ovatus, imbricatus, squamis spinosis. Recept. pilosum.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *palustris* foliis decurrentibus dentatis: margine spinosis, floribus racemosis erectis, pedunculis inermibus. *Lin. Syst. Vegetab. p. 724. Sp. Pl. 1151. Fl. Suec. n. 720.*

CIRSIUM caule recto subnudo alato, foliis semipinnatis spinosis, calycibus molliter spinosis. *Haller Hist. n. 170.*

CIRSIUM *palustre. Scopoli Fl. Carn. n. 1004.*

CARDUUS *palustris. Bauh. Pin. 377. Parkins. 983. Raii Synop. p. 194. Marsh-Thistle. Hudson Fl. Angl. ed. 2. p. 352. Lightfoot Fl. Scot. p. 453.*

RADIX biennis.

CAULIS quadripedalis, et ultra, erectus, ramosus, multangulus, pilis crebris longis albis hirsutus, alatus, spinosus, longitudinaliter viridi et purpureo variegatus.

FOLIA sessilia, deflexa, lanceolata, acuta, laceratodentata, lacinii horizontalibus, oppositis, dentibusque latis, obtusiusculis, dente infimo cujusque laciniae crispato, elevato, venosa, pilis remotioribus hirsuta, supra obscure viridia, subtus glauca, costa pallide viridescenti, subtus hirsutissima, margine spinoso, spinis basi purpurascens, apice albis, folia caulina suprema apice linearia, elongata.

Foliorum rudimenta spinosa ad caulem quinque et sexfariam interrupta, decurrentia, eum alatum, spinosum reddunt.

FLORES in summitate caulis ramorumque congesti, sessiles, violacei.

CALYX ventricosus, subovatus, lævis, sublanuginosus, arcte imbricatus, squamis ovatis, convexis, viridibus aut purpurascens, mucrone divergente purpureo terminatis, *fig. 1. auct. sub mucrone linea prominula nitida notatis, fig. 2.*

COROLLA composita, tubulosa, uniformis, calyce duplo longior; *Corollulae* hermaphroditæ, subæquales, reflexæ; *Corolla* propria monopetalæ, infundibuliformis, tubo tenuissimo, albescens; *limbo* erecto, basi ovato, quinquefido, violaceo, lacinii linearibus, æqualibus, unica profundius separata, *fig. 3.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERA cylindracea, tubulosa, corolla paulo longior violacea.

PISTILLUM: GERMEN ovatum; STYLUS filiformis, staminibus longior, pallide violaceus; STIGMA simplex, subulatum, nudum, *fig. 4.*

SEMINA obovata, obsolete angulata, hinc convexa, inde parum concava, albida, nitida, *fig. 5.*

PAPPUS sessilis, plumosus, *fig. 6.*

RECEPTACULUM pilosum, planum.

ROOT biennial.

STALK four feet or more in height, upright, branched, multangular, hirsute with numerous long white hairs, winged, spinous, variegated longitudinally with green and purple.

LEAVES sessile, bent downwards, lanceolate, pointed, jaggedly toothed, segments horizontal, opposite, together with the teeth broad and somewhat blunt, the lowermost tooth of each segment crisp'd and elevated, veiny, hirsute with hairs standing remotely, above of a deep green colour, glaucous on the under side, the mid-rib of a pale green colour, and extremely hairy underneath, the margin of the leaf spinous, the spines purplish at the base and white at the extremity, the uppermost stalk-leaves elongated and linear at the extremity.

Five or six rows of spinous rudiments of leaves running interruptedly down the stalk, render it winged and spinous.

FLOWERS of a violet colour, sessile, in clusters on the top of the stalk and branches.

CALYX ventricose, somewhat ovate, smooth, a little woolly, scales lying closely one over the other, ovate, convex, green or purplish, terminated by a purple diverging mucro or point, *fig. 1. magn. beneath which is a glossy linear prominence, fig. 2.*

COROLLA compound, tubular, uniform, twice as long as the calyx; *Florets* hermaphrodite, nearly equal, turned back, each single *Floret* monopetalous, funnel-shaped, the tube very slender, whitish; the limb upright, ovate at the base, divided into five segments, which are of a violet colour, linear, equal, one more deeply separated than the rest, very slender, *fig. 3.*

STAMINA: five FILAMENTS; ANTHERÆ forming a cylindrical tube, longer than the corolla, of a violet colour.

PISTILLUM: GERMEN ovate; STYLE filiform, longer than the stamens, of a pale violet colour; STIGMA simple, tapering, and naked, *fig. 4.*

SEEDS inversely ovate, faintly angular, on one side convex, on the other a little concave, whitish, and shining, *fig. 5.*

DOWN sessile and feathery, *fig. 6.*

RECEPTACLE hairy and flat.

On moist heaths and commons, in wet meadows, marshes, and the boggy parts of woods, the *Carduus palustris* is a very common, as well as a very troublesome plant; in the latter situation it frequently grows to the height of ten or twelve feet, and in some very favourable spots of this sort, acquires a height which we believe no other *British* herbaceous plant ever attains to.

As it is a biennial, there is no great difficulty attends its extirpation—was the husbandman as careful to weed the noxious plants from his pastures as from his corn-fields, they would soon wear a more pleasing aspect.

As it is never found but in the situations above mentioned, it is not likely to be mistaken for any other Thistle; it has usually more purple about it than the rest of its kindred, and varies as many of the others do with white flowers—formidable as its stalks and leaves are from their numerous spines, its heads are perfectly harmless.







Carduus marianus

Samson sculp

CARDUUS MARIANUS. MILK THISTLE.

CARDUUS *Linnaei. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

Calyx ovatus, imbricatus squamis spinosis. Receptaculum pilosum.

Raii Syn. Gen. 18. HERBÆ FLORE EXFLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

CARDUUS *marianus* foliis amplexicaulibus hastato pinnatifidis spinosis; calycibus aphyllis: spinis canaliculatis duplicato spinosis. *Linn. Syst. Vegetab. p. 605. Sp. Pl. 1153.*

SILYBUM nervis foliorum albis. *Haller. Hist. n. 181.*

CIRSIUM maculatum. *Scopoli Fl. Carniol. p. 130.*

CARDUUS albis maculis notatus vulgaris. *Baubin. Pin. p. 281.*

CARDUUS mariae. *Gerard. emac. 1150.*

CARDUUS mariae vulgaris. *Parkinson. 976.*

Raii Synop. p. 195. Common Milk Thistle, or Ladies Thistle.

Hudson. Fl. Angl. ed. 2. p. 353.

Lightfoot. Fl. Scot. p. 454.

RADIX annua.

FOLIA radicalia supra terram expansa, pedalia, bipedalia et ultra, pinnatifido sinuata, nitida, margine spinosa, superne venis albis reticulatis picta, tubinde vero immaculata, Caulina amplexicaulia, patentia, suprema recurvata, basi cauli adpressa.

CAULIS tripedalis, ad orgyalem, ramosus, inferne crassitie digiti intermedi, tomentosus, sulcatus, superne nudus, striatus.

FLORES solitarii, magni, purpurei.

CALYX: Folia quæ calycem componunt varia sunt, inferiora nempe rotundata, spinis ciliata; intermedia utrinque ad basin spinis ciliata, acuminata, patentia, rigida, superne canaliculata, spina flavescente terminata; superiora et interiora lanceolata, inermia, apice purpurea, marginibus fissis, fig. 1, 2, 3.

COROLLULÆ infundibuliformes, tubo tenuissimo, curvato, albo, fig. 4; Limbo erecto, quinquefido, basi subglobofo, nitido, intus melleum liquorem fundente, laciniis linearibus, æqualibus.

STAMINA: FILAMENTA quinque, capillaria, brevissima: ANTHERÆ purpureæ, in tubum tenuissimum coalitæ, fig. 6.

PISTILLUM: GERMEN ovatum, compressum, album: STYLUS filiformis, staminibus longior, prope apicem circulo villorum coronato, dein utrinque sulcato et apice bifido, fig. 7.

SEMINA plurima, ovata, subangulata, nitida, nigricantia, pappo obliquo, rigidulo, simplici, albedo coronata.

RECEPTACULUM pilosum.

ROOT annual.

LEAVES next the root, expanded on the ground, from one to two feet or more in length, sinuated, and pinnatifid, shining, the edge spinous, on the upper side painted with white veins, which form a kind of net work, but sometimes wholly green; leaves on the stalk partly surrounding the stem, spreading, the uppermost leaves bent back, the base of each pressed close to the stalk.

STALK from three to six feet high, branched, at bottom about the thickness of the middle finger, downy, grooved, at top naked, and finely channeled.

FLOWERS one on each stalk, large, and purple.

CALYX. The leaves which compose the calyx are various; the lowermost are of a roundish shape, and edged with spines; the middle ones edged with spines towards the bottom, and running out to a point, spreading, rigid, hollow on the upper side, and terminating in a yellowish spine; the upper and innermost leaves lanceolate, without spines, purple at top, and notched on the edges, fig. 1, 2, 3.

FLORETS funnel shaped; tube very slender, bent, and white, fig. 4; Limb erect, divided into five segments, at bottom somewhat globular, and secreting a honey liquor within, the segments linear, and equal in length.

STAMINA: five FILAMENTS, very short, and fine: ANTHERÆ purple, united into a very slender tube, fig. 6.

PISTILLUM: GERMEN oval, flattened, and white: STYLE thread-shaped, longer than the stamina, crowned near the top with a circle of short hairs, from thence grooved on each side, and bifid at top, fig. 7.

SEEDS numerous, oval, somewhat angular, shining, of a blackish colour, crowned with a stiffish, simple, white down, growing obliquely.

RECEPTACLE hairy.

THE beautiful milk white veins which form an irregular net work on the upper side of the leaves of this species of *Thistle*, joined to its grandeur, render it an object which strikes the attention of most: and where these veins exist, they serve also very well to characterize the plant: the leaves however are frequently wholly green; in which case, it becomes necessary to have recourse to some of its other characters, than which none are more conspicuous than the strong spines which defend the blossom.

The seeds are large, and contain a portion of oil, whence they have sometimes been made use of in emulsions: but they more often serve as food for the Goldfinch, and other granivorous birds.

It is a very common plant on our banks, by the sides of roads, and among rubbish, and flowers in May and June. The variety with green leaves, I have observed on the banks near *Kennington Turnpike*.

Did it not occupy so much space, its beauty would recommend it as a garden plant.





Onopordum canthium.

ONOPORDUM ACANTHIUM. COTTON THISTLE.

ONOPORDUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. favosum. Cal. squamæ mucronatæ.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

ONOPORDUM *Acanthium* calycibus squarrosis: squamis patentibus, foliis ovato oblongis sinuatis. *Lin. Syst. Vegetab. p. 607. Sp. Pl. p. 1158. Fl. Succ. n. 724.*

ONOPORDUM caule alato, foliis ovatis dentatis, dentibus angulosis aristatis. *Haller hist. n. 159.*

ACANOS *Spina. Scopoli Fl. Carn. n. 1013.*

SPINA alba tomentosa latifolia sylvestris. *Bauh. pin. 382.*

ACANTHIUM album. *Ger. emac. 1149.*

ACANTHIUM vulgare. *Parkin. 1149.*

CARDUUS tomentosus, Acanthium dictus vulgaris. *Raii Syn. 196. Common Cotton Thistle. Hudson Fl. Angl. ed. 2. p. 354. Lightfoot Fl. Scot. p. 459.*

RADIX biennis.

CAULIS tripedalis ad sepedalem, ad basin usque ramosus, sublanuginosus, per totam longitudinem alatus, alis latis, spinosis, spinis lutescentibus, divergentibus.

RAMI longi, diffusi.

FOLIA sessilia, ovata, acuta, decurrentia, sinuata, dentata, seu angulosa, utrinque lanugine incana, inferiora amplissima, longitudine sessipedalia, latitudine fere pedalia, margine spinosa.

FLORES purpurei, erecti, terminales, magnitudine florum Cardui mariani.

CALYX: communis subrotundus, ventricosus, imbricatus, squamis numerosis, spinosis, undique prominentibus, spinis apice luteis, basi pilis albis intertextis, fig. 1.

COROLLA: composita, tubulosa, uniformis; Corollulæ hermaphroditæ, æquales, monopetalæ, infundibuliformes, tubo tenuissimo, fig. 2. limbo erecto, ventricoso, quinquefido, laciniis æqualibus, linearibus, fig. 3.

STAMINA: FILAMENTA quinque, capillaria, brevissima; ANTHERÆ purpuræ, in cylindrum coalitæ, quinque-dentatæ, fig. 4.

PISTILLUM: GERMEN ovatum, fig. 6. STYLUS filiformis, staminibus longior; STIGMA bifidum, fig. 5.

PERICARPIUM nullum, Calyx arcte connivens.

SEMINA obovata, subcompressa, obsolete angulata, rugosa, nigricantia, fig. 7. Pappus sessilis, ad lentem hispidulus, fig. 8.

RECEPTACULUM cellulis membranaceis, tetragonis, reticulatum, favi instar, fig. 9.

ROOT biennial.

STALK from three to six feet high, branched down to the bottom, somewhat woolly, winged throughout its whole length, wings broad and spinous, the spines yellowish and diverging.

BRANCHES long, and spreading.

LEAVES sessile, ovate, pointed, running down the stalk, sinuated and indented or angular, covered on both sides with a kind of white woolly down, the lowermost leaves very large, a foot and a half long, and almost a foot in breadth, spinous on the edge.

FLOWERS terminal, purple, upright, the size of those of the Milk Thistle.

CALYX: common to all the florets, somewhat round, bellying out, and imbricated, the scales numerous, spinous, projecting on every side, the spines yellow at the points, and at the base interwoven with white hairs, fig. 1.

COROLLA compound, tubular, uniform, Florets hermaphrodite, equal, monopetalous and funnel-shaped, tube very slender, fig. 2. limb upright, bellying out, divided into five equal linear segments, fig. 3.

STAMINA: five capillary, very short FILAMENTS; ANTHERÆ purple, forming a cylindrical tube, terminating above in five teeth, fig. 4.

PISTILLUM: GERMEN ovate, fig. 6. STYLE filiform, longer than the stamens; STIGMA bifid, fig. 5.

SEED-VESSEL none, the Calyx closing strongly together.

SEEDS inversely ovate, a little flattened, faintly angular, wrinkled, blackish, fig. 7. Down sessile, slightly hispid when magnified, fig. 8.

RECEPTACLE reticulated with square, membranous cells, like a honeycomb, fig. 9.

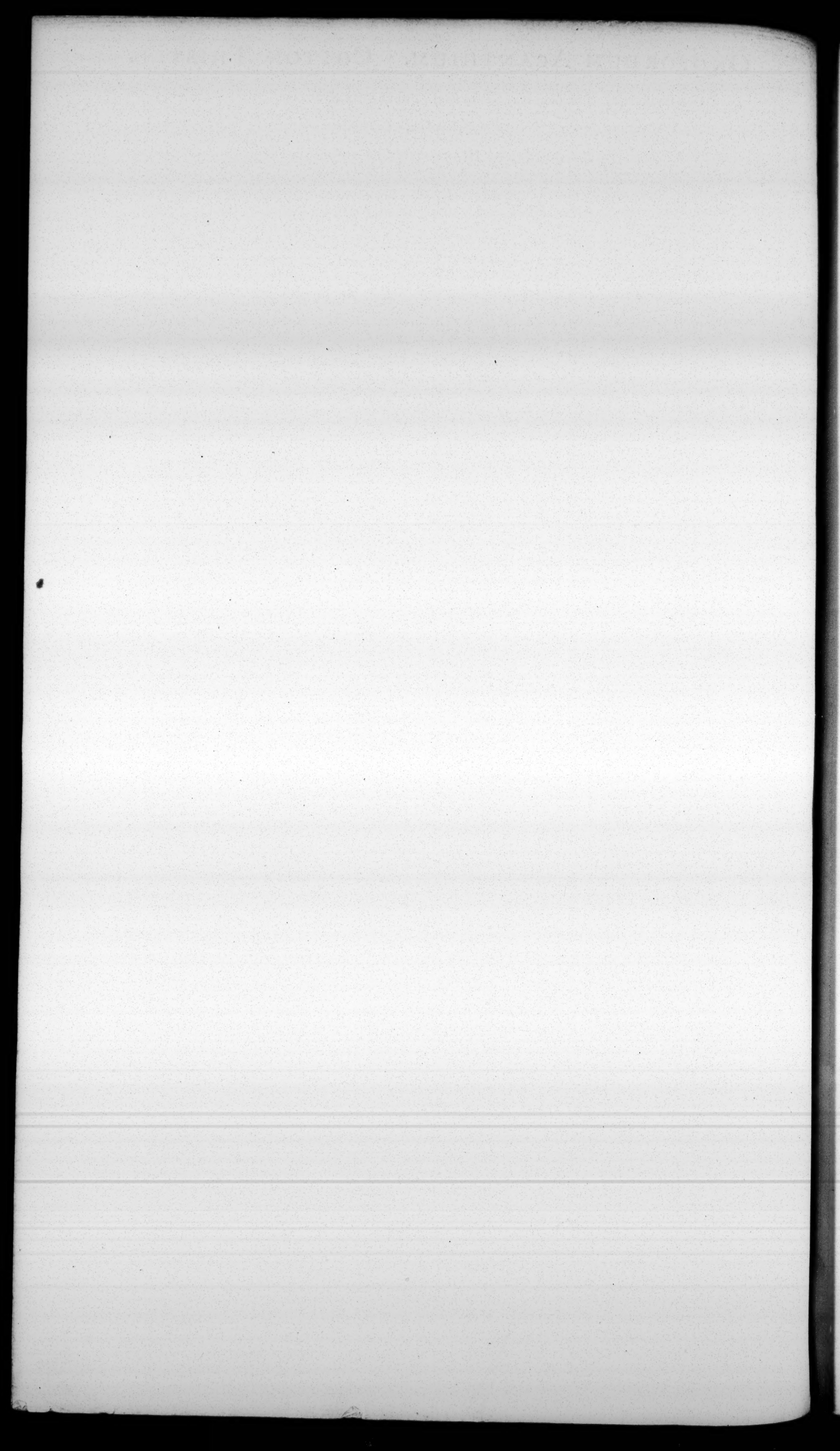
When the Cotton-Thistle grows to its full size, in a pure air, uncontaminated by London Smoke, the grandeur and snowy whiteness of its foliage render it highly conspicuous and ornamental.

With us it grows most commonly on the sunny side of dry banks, and occasionally among rubbish, but very seldom in open fields; hence it proves very little injurious to the husbandman.

It is distinguished from the Carduus tribe, by having a receptacle somewhat like a honeycomb, *vid. fig. 9.* It differs also in another circumstance. When the flowering is over, the innermost scales of the calyx close strongly together, and preserve the seed; in the Thistles, as soon as the seed is ripe, the first hot day opens the heads, expands the pappus, and the least wind carries away the seed; in the Onopordum they remain shut up, and strongly defended, nor can they commit themselves to the earth, or be eaten by birds, till long exposure to the weather has decayed the calyx which encloses them; on this account, they may afford sustenance to birds later in the year, when similar food is not to be obtained.

June and July are the principal months of its flowering.

It is not very subject to the depredations of insects, and it is defended by its strong spines from the attacks of most quadrupeds.







Bidens tripartita.

BIDENS TRIPARTITA. TRIFID HEMP-AGRIMONY.

BIDENS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. paleaceum. *Pappus* aristis erectis scabris. *Cal.* imbricatus. *Cor.* rarius flosculo uno alterne radiante instruitur.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE SEMINIBUS PAPPO DESTITUTIS CORYMBIFERÆ DICTÆ.

BIDENS *tripartita* foliis trifidis, calycibus subfoliosis feminibus erectis. *Lin. Syst. Vegetab.* p. 610. *Sp. Pl.* 1165. *Fl. Suec.* 283. *Lappon.* p. 234.

BIDENS foliis petiolatis trilobatis et quinque lobatis serratis floribus circumvallatis. *Haller Hist.* n. 121.

BIDENS *tripartita.* *Scop. Fl. Carn.* n. 1090.

VERBESINA seu Cannabina aquatica flore minus pulchro, elatior et magis frequens. *J. B.* II. 1073.

CANNABINA aquatica folio tripartito diviso. *Baub. pin.* 321.

EUPATORIUM cannabinum fœmina, *Ger. emac.* 711.

EUPATORIUM aquaticum duorum generum. *Parkins.* p. 595. *Raii Syn.* p. 187. Water Hemp-Agrimony, with a divided Leaf. *Hudson. Fl. Angl. ed. 2.* p. 355. *Lightfoot Fl. Scot.* p. 461.

RADIX annua, simplex, fibrosa, fibris albidis.
CAULIS pedalis ad tripedalem, erectus, ramosus (ramis oppositis), teretiusculus, modice sulcatus, rubens, solidus, glaber, scabriusculus.

FOLIA opposita, petiolata, connata, glabra, tripartita, aut etiam quinque partita, laciniis profunde serratis, suprema indivisa, dentato-serrata, aut etiam integra, pilis haud infrequenter ciliata.

FLORES lutei, terminales, subnutantes.

CALYX: Foliola plura, plerumque integra, lanceolata, ciliata, flores involucri instar ambientia; squamæ calycis communis ovato lanceolatae, integrae, lineis plurimis, nigricantibus, parallelis, pictæ, marginibus flavescentibus. *fig. 1.*

COROLLULÆ hermaphrodite, tubulosæ, infundibuliformes, luteæ, striis quinque purpureis externe notatæ; limbo quinquefido, suberecto. *fig. 2.*

STAMINA: FILAMENTA quinque capillaria; ANTHERÆ in tubum cylindricum coalitæ. *fig. 3.*

PISTILLUM: GERMEN subcompressum, angulatum, superne latius, aristis tribus plerumque instructum, unicâ brevior; *fig. 3.* STYLUS simplex, longitudine staminum; STIGMATA duo oblonga, reflexa. *fig. 4, 5.*

SEMEN oblongum, compressum, angulatum, fuscum, aristis duabus seu tribus retrorsum scabro hamatis instructum. *fig. 6.*

RECEPTACULUM paleaceum, planum, paleis lanceolato-linearibus, lineatis, deciduis. *fig. 7.*

ROOT annual, simple and fibrous, fibres whitish.

STALK from one to three feet high, upright, branched, (the branches opposite), roundish, moderately grooved, of a reddish colour, solid, smooth to appearance, but slightly rough to the touch.

LEAVES opposite, standing on footstalks, which unite at the base, smooth, divided into three, and sometimes five segments, which are deeply serrated, the uppermost leaves undivided, either indented at the edge, or entire, and not unfrequently edged with hairs.

FLOWERS yellow, terminal, drooping a little.

CALYX: several, small, lanceolate leaves, generally entire, but edged with hairs surrounding the flowers like an involucre; the scales of the calyx common to all the florets are ovate and pointed, entire at the edge, and painted with numerous blackish lines, the edges are yellowish. *fig. 1.*

FLORETS hermaphrodite, tubular, funnel-shaped, of a yellow colour, marked externally with three purplish stripes, the limb divided into five segments, which are nearly upright. *fig. 2.*

STAMINA: five capillary FILAMENTS; ANTHERÆ united into a cylindrical tube. *fig. 3.*

PISTILLUM: GERMEN flattish, angular, broadest at top, generally furnished with three awns, of which one is shorter than the rest; *fig. 3.* STYLE simple, the length of the stamina; STIGMATA two, oblong, turning back. *fig. 4, 5.*

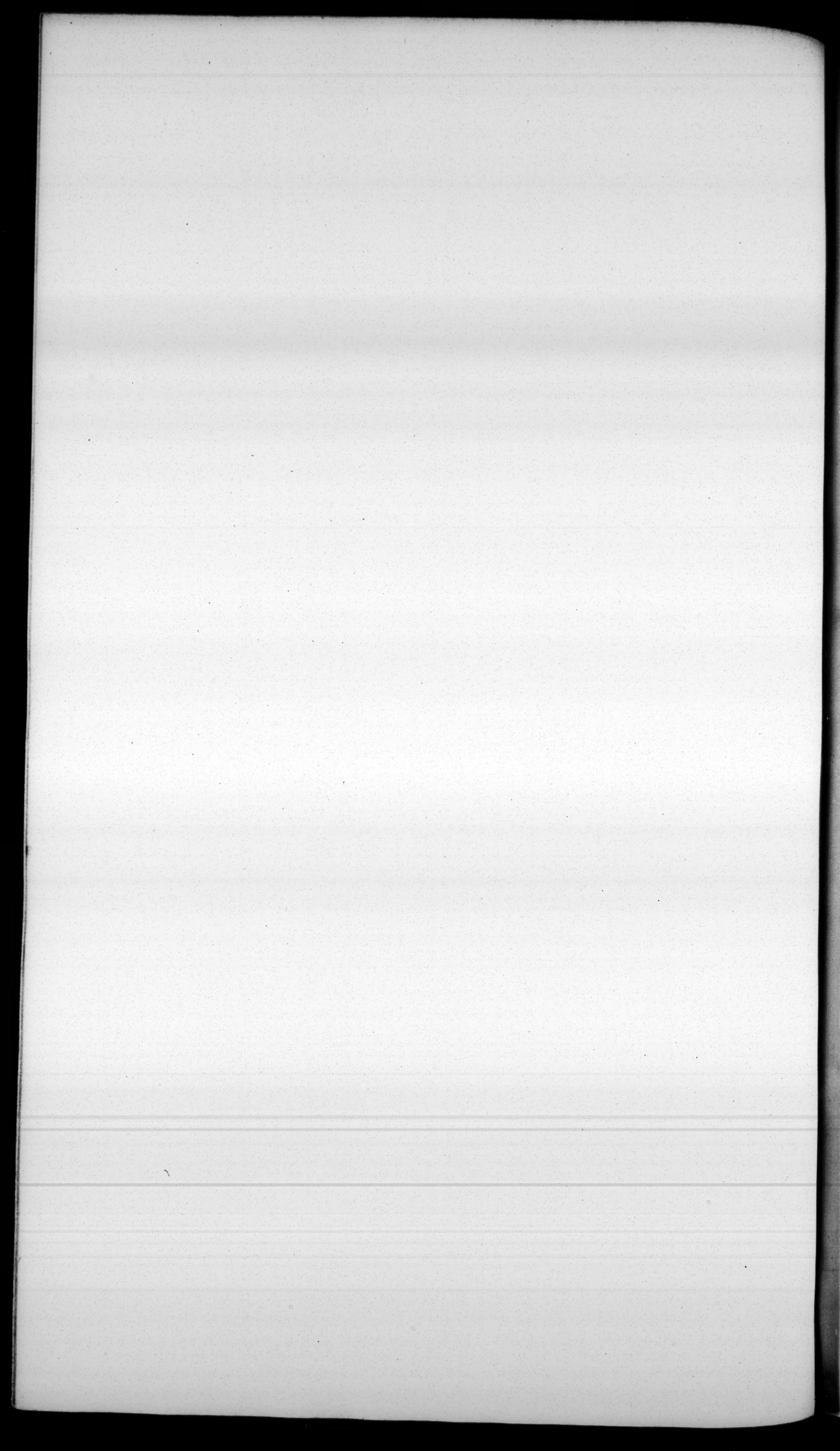
SEED oblong, flat, angular, brown, furnished with two or three awns, which are hooked or barbed downward. *fig. 6.*

RECEPTACLE chaffy and flat, scales or chaff, narrow, marked with lines and deciduous. *fig. 7.*

This species of *Bidens* is much more common than the *cernua*, as that is generally found in the water, this more frequently occurs on the borders of ponds, rivulets, &c. where it flowers in the months of August and September, at the close of which it ripens its seeds.

It is obviously distinguished from the *cernua* by having its leaves, for the most part, divided into three segments, whence its name; this character is more to be depended on than the uprightness of its flowers, as they generally droop a little when the plant is in perfection.

LINNÆUS, and other writers, recommend it as a plant that will dye both linen and woollen of a yellow colour, for this purpose the yarn or flax must be first steeped in allum-water, then dried and steeped in a decoction of the plant, and afterwards boiled in the decoction. *Haller. Hist. Helv.* p. 52.







Bidens cernua.

BIDENS CERNUA. NODDING WATER-HEMP - AGRIMONY.

BIDENS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS. *Recept.* paleaceum. *Pappus* aristis erectis scabris. *Cal.* imbricatus. *Cor.* rarius flosculo uno alterne radiante instructus.

Raii. Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE SEMINIBUS PAPPO DESTITUTIS CORYMBIFERÆ DICTÆ.

BIDENS cernua foliis lanceolatis amplexicaulibus floribus cernuis feminibus erectis. *Lin. Syst. Vegetab.* p. 610.

BIDENS foliis sessilibus ferratis, floribus nutantibus circumvallatis. *Haller. Hist.* 120.

BIDENS cernua *Scopoli Fl. Carniol.* p. 176. n. 2.

CANNABINA aquatica folio non diviso. *Bauh. pin.* 321.

VERBESINA pulchriore flore luteo. *I. B. II.* 1074.

EUPATORIÆ Cannabinæ fæminæ varietas altera *Ger. emac.* 711.

EUPATORIUM aquaticum folio integro. *Parkins.* 596.

VERBESINA minima. *Dillen. Cat. Gifs.* 167. et *App.* 66. *Raii. Syn. ed 3. t. 7. f. 2.*

Raii. Syn. p. 187. Water-Hemp-Agrimony with an undivided leaf.

Hudson. Fl. Angl. ed. 2. p. 356.

Lightfoot. Fl. Scot. p. 463.

RADIX annua, fibrosa, fibris plurimis, majusculis, alte descendens.

CAULIS pedalis, bipedalis, et ultra, erectus, ramosus, hispidulus, purpurascens, rubro punctatus, inferne teres, superne sulcato-striatus, rami oppositi, suberecti.

FOLIA opposita, indivisa, modice connata, ovato-lanceolata, patentia, ferrata, utrinque lævia.

PEDUNCULI striati.

FLORES e luteo virentes, demum cernui, plerumque radiati.

CALYX communis, foliaceus, foliolis circiter septem, lineari-lanceolatis, ferrulatis, nervosis, reflexis, corollâ longioribus.

COROLLA: PETALA exteriora decem circiter, oblongo-ovata, acutiuscula, nitida, e flavo-virescentia, apice inflexa, lineis parallelis nigricantibus picta, exempta margine; FLOSCULI in disco numero, æquales, hermaphroditi, infundibuliformes, flavi; *Tubus* cylindraceus, longitudine limbi seu paulo longior, *Limbus* campanulatus, quinque-dentatus, dentibus sub-reflexis. *fig. 1. 2.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERÆ nigricantes, in tubum laxum coactæ. *fig. 3.*

PISTILLUM: GERMEN angulatum, subconicum, albidum, apice truncatum, superne e quatuor angulis, aristis quatuor longitudine fere flosculi instructum. *fig. 6.*

SEMEN olivaceo-nigrum, obverse conicum, tetragonum, angulis aristisque retrorsum scabro hamosis. *fig. 7.*

RECEPTACULUM paleaceum *Paleis* structuræ petalorum, lanceolatis, longitudine flosculorum. *fig. 5.*

ROOT annual, and fibrous, the fibres numerous, large, branched, running deep.

STALK from one to two feet high or more, upright, branched, somewhat hispid, purplish, dotted with red, below round, above striated, the branches opposite and nearly upright.

LEAVES opposite, undivided, moderately connate, ovato-lanceolate, spreading, ferrated, and smooth on both sides.

FLOWER-STALKS striated.

FLOWERS of a yellowish green colour, finally drooping, generally radiated.

CALYX common to all the florets leafy, consisting of about seven leaves, which are of a shape betwixt linear and lanceolate, finely sawed at the edge, rib'd, turning back and longer than the corolla.

COROLLA: the exterior PETALS about ten in number, of an oblong oval shape, somewhat pointed, and bending in at the top, of a yellowish green colour, shining and marked with blackish parallel lines except the margin, the FLOWERS in the center numerous, æqual, hermaphrodite, funnel shaped and of a yellow colour; the *Tube* cylindrical the length of the limb or a little longer, the *Limb* bell-shaped, having five teeth which turn somewhat back. *fig. 1. 2.*

STAMINA: five FILAMENTS, very fine; ANTHERÆ blackish, forming a loose tube. *fig. 3.*

PISTILLUM: GERMEN angular, somewhat conical, whitish, cut off at top, furnished above with four beards or awns proceeding from the four angles almost the length of the flower and beset with little hooks bending backward. *fig. 6.*

SEED of a dark olive colour, inversely conical, four cornered, the corners and beards beset with little hooks bending backward. *fig. 7.*

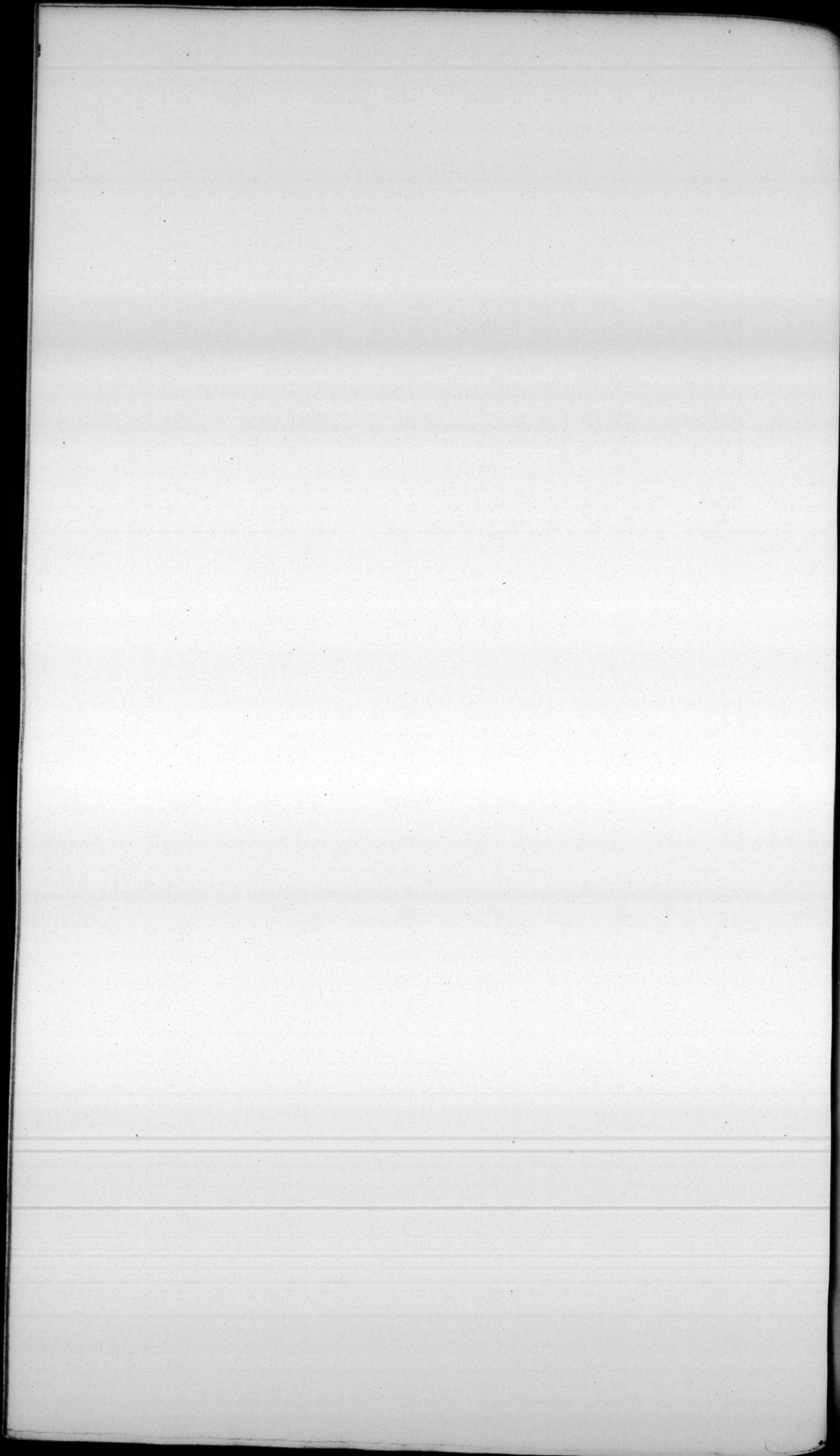
RECEPTACLE chaffy or beset with numerous lanceolate leaves having the structure of the petals and being as long as the florets. *fig. 5.*

THE Genus *Bidens* of LINNÆUS is chiefly characteriz'd by the structure of its seeds, which according to its name shou'd be furnished with two teeth or awns, to neither of our English species does this name however well accord, as the one has generally three and the other four; the awns are furnish'd with small sharp hooks, (a curious object for the microscope) by means of which they often stick to ones cloaths, and Mr. LIGHTFOOT mentions that they have been known sometimes to destroy the *Cyprinus auratus* or Gold Fish by adhering to their Gills and Jaws.

We have two species of *Bidens* common in this country viz the *tripartita* and *cernua*, the *tripartita* is common on the edge of almost every pond, the *cernua* delights rather to grow in the water itself, in the ditches about St. Georges Fields, in the pond adjoining Hornsey Wood, and in similar situations about London it is very frequently met with, it flowers in the month of September, a month later than the *tripartita*.

Like all other plants it is subject to vary, being sometimes found without its exterior petals, and sometimes in very dry seasons when the Sun has exhale the water from the pond it has grown in, it has been found so dwarfish as not to exceed two or three inches in height, a plant of this kind is figured on the plate, *fig. 8*, DILLENIUS finding it in this state, described and figured it is in his edition of *RAYS Synopsis*, as a distinct species and LINNÆUS probably relying on his authority adopted it as such in his *Species plantarum* but HALLER who had seen the Plant very justly considers it as only a variety and Mr. LIGHTFOOT concurs with him in opinion, Mr. HUDSON with his usual inaccuracy in the second edition of his *Flora anglica* gives it as a variety of the *tripartita*.

The flowers of this species have a strong and not a very disagreeable smell, hence they promise to possess some medicinal powers, it is said by LINNÆUS, to dye yellow, but not so powerfully as the *tripartita*.







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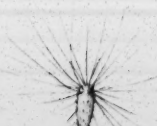


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Erigeron 'acres'?

ERIGERON ACRE. PURPLE ERIGERON.

ERIGERON *Linnaei. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.*

Raii Synopsis. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORE DISCOIDE.

ERIGERON *Acre pedunculis alternis unifloris. Lin. Sp. Pl. 1211.*

ERIGERON *polymorphum Scopoli. Fl. Carniol. DIAGN. folia lanceolata, basi et apice attenuata. Germina villosa. Pappus rufus.*

ERIGERON *caule alterne ramoso, petiolis unifloris, semiflosculis pappum æquantibus, et semiflosculis pappum superantibus Haller. hist. n. 85. 86.*

CONYZA *cærulea acris Baubin Pin. 265. Gerard emac. 484.*

ASTER *arvensis cæruleus acris. Raii Syn. 175. Blue-flowered sweet Fleabane.*

CONYZA *odorata cærulea Parkinson 126.*

SENECIO *five Erigeron cæruleus I. B. II. 1043 Hudson Fl. Angl. 314. Oeder Fl. Dan. Tab. 292.*

RADIX perennis, fibrosa, fibris pallide fuscis.

CAULIS erectus, rigidus, pedalis, purpureus, striatus, foliosus, hirsutus, in quibusdam vix ramosus in aliis ramosissimus.

FOLIA alterna, sessilia, hirsuta, inferiora obtuse ovata basi angustiora, superiora angusta, reflexa, tortuosa, ramorum linearia, suberecta.

FLORES erecti, nunquam sese explicantes sicut plerique flores Classis Syngenesiæ, externi purpurei, interni flavescentes, cum cavitate in medio.

CALYX communis imbricatus, squamis subulatis, erectis, purpureis, hirsutis, laxis, fig. 1.

COROLLA composita, radiata; Corollulæ hermaphroditeæ tubulosæ, numerosæ in disco, fig. 2. femineæ ligulatæ, pauciores in radio, fig. 3. Propria hermaphroditi infundibuliformis, flava, limbo quinquefido, fig. 2: Femineæ ligulata, linearis, erecta, purpurea, hermaphroditâ longior, fig. 3.

STAMINA hermaphroditis: FILAMENTA quinque, capillaria, brevissima: ANTHERÆ in tubum coalitæ.

PISTILLUM Hermaphroditis: GERMEN coronatum Pappo corolla paulo longior, fig. 4. STYLUS filiformis longitudine Pappi fig. 5; STIGMA bifidum fig. 6: Femineis: GERMEN tenue, Pappo longitudine fere Corollæ, fig. 7; STIGMATA duo, tenuissima, fig. 8.

SEMINA oblonga, pallide fusca, hirsuta, lente auct: fig. 9: PAPPUS sessilis, lutescens, simplex, fig. 10.

ROOT perennial and fibrous, the fibres of a pale brown colour.

STALK upright, rigid, about a foot high, purple, striated, leafy, and hirsute, in some scarce branched at all, in others very much so.

LEAVES alternate, sessile, hirsute, the bottom ones of a blunt oval shape, and narrow at bottom, the upper ones narrow, turning back and twisted, those of the branches linear and nearly upright.

FLOWERS upright, never expanding themselves like most of the flowers of the Class Syngenesia, externally purple, internally yellow, with a cavity in the middle.

CALYX: the common Calyx composed of a number of scales, which are narrow and pointed, upright, purplish, hirsute, and loosely connected fig. 1.

COROLLA compound and radiated; the hermaphrodite flowers tubular and numerous in the middle, fig. 2. the female flowers ligulate, and fewer in the circumference, fig. 3: each hermaphrodite floscule, funnel-shaped, yellow, with the limb divided into five segments, fig. 2: each female floscule, linear, upright, purple, longer than the hermaphrodite flower, fig. 3.

STAMINA in the hermaphrodite flowers: five FILAMENTS, very small and short; the ANTHERÆ united into a tube.

PISTILLUM of the hermaphrodite flowers; the GERMEN crowned with a Pappus or Down a little longer than the Corolla, fig. 4; the STYLE filiform, the length of the Pappus, fig. 5; STIGMA bifid, fig. 6: of the Female flowers; the GERMEN slender, the Pappus nearly the length of the Corolla, fig. 7; two STIGMATA very slender, fig. 8.

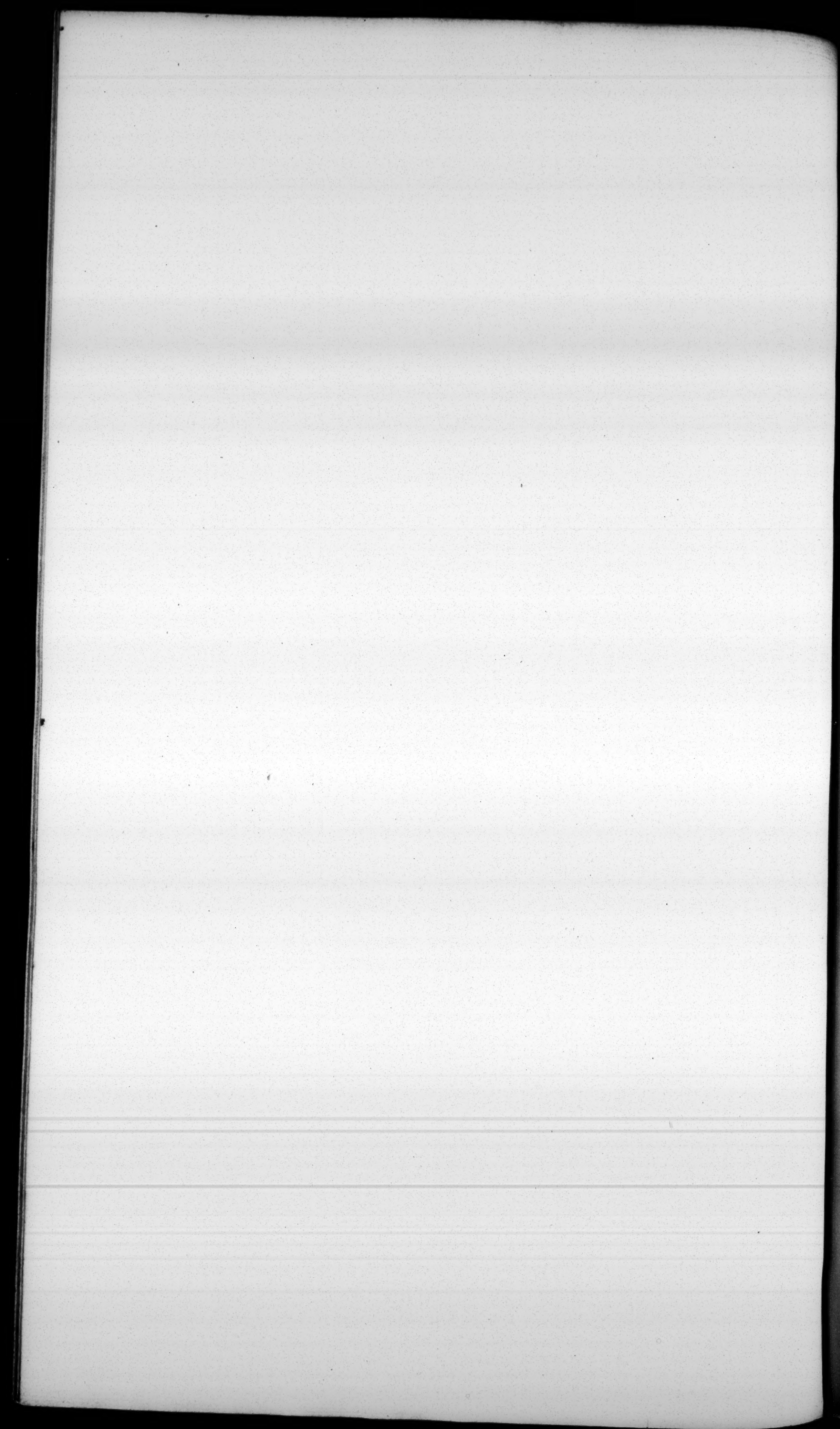
SEEDS oblong, of a pale brown colour, hirsute, magnified fig. 9; PAPPUS sessile, yellowish and simple fig. 10.

The Erigeron Acre is by no means a common plant in our neighbourhood, yet occurs very frequently on the hilly and chalky ground about *Charlton Wood*, particularly in the chalk pits on the left hand side of the lane behind the Church.

It flowers in the months of August and September, and is considered as a pretty sure indication of a barren soil. It has a taste somewhat warm and biting, and hence has received its name of *Acris*.

We have rather chosen to retain LINNÆUS's name of *Erigeron* than adopt RAY's name of *Fleabane*, which tends to confound it with the Genus *Conyza*.

It frequently grows much taller, and is often found much smaller than the specimen we have figured.







Tussilago Petasites

Sanson del.

TUSSILAGO PETASITES. BUTTERBUR.

TUSSILAGO Lin. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus simplex. Cal. squamæ æquales, discum æquantes, submembranaceæ.

Raii Syn. Gen. 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES FLORE DISCOIDE.

TUSSILAGO Petasites Thyrsis ovato, flosculis omnibus hermaphroditis. Lin. Sp. Pl. p. 1215. Fl. Suecic. n. 746.

PETASITES floribus dense spicatis, flosculis androgynis. Haller hist. n. 143.

TUSSILAGO Petasites. Scopoli Fl. Carn. n. 1058.

PETASITES major et vulgaris. Bauh. p. 197.

PETASITES Gerard emac. 814.

PETASITES vulgaris. Parkinson. 419. Raii Syn. p. 179, Butterbur, Pestilent-wort.

Hudson. Fl. Angl. 351. ed. 2. 364.

Lightfoot. Fl. Scot. 477.

RADIX perennis, repens, albida, crassitie digiti, multo etiam major in adultis plantis, horizontalis, fibras plurimas prælongas dimittens, versus apicem sensim incrassatas.

PETIOLI radicales, teretiusculi, striati, villosi, canaliculati, basi vaginati, purpurascens.

FOLIA cordata, rotundata, margine inæqualiter dentata, denticulis rufis, inferne subtomentosa, defloratâ plantâ incrementa, tandem amplissima.

SCAPUS radicalis, spithamæus, teres, fistulosus, albidus, tomentosus, adpersus squamis lanceolatis, purpurascens, nervosis, inferioribus foliolo crenulato terminatis.

THYRSUS primum ovatus, dein oblongus, demum subconicus, pedunculis unifloris, bractæatis.

BRACTEÆ ad basin pedunculorum lanceolatæ, apice purpurascens, deliculatæ, longitudine pedunculi, fig. 1.

CALYX communis, turbatus, lævis, squamis subæqualibus, lanceolatis, apice subincurvatis, fig. 2.

COROLLA composita; corollulæ omnes hermaphroditæ, tubulosæ, propria pallide purpurea, infundibuliformis, tubo filiformi, elongato, limbo campanulato, quinquefido, laciniis reflexis, fig. 3.

ANTHERÆ purpureæ, in tubum coalitæ, fig. 4.

PISTILLUM: GERMEN teres, nudum: STYLUS albidus, antheris longior: STIGMA crassum, album, bifidum, fig. 5.

SEMINA oblonga, marcidia, nigricantia, sterilia, pappo simplici coronata, fig. 6.

RECEPTACULUM nudum.

ROOT perennial, creeping, whitish, the thickness of ones finger, or much larger in full grown plants, running horizontally, and sending down numerous long fibres, which grow thicker towards the extremity.

LEAF-STALKS proceeding from the root, roundish, striated, villous, hollow on the inside, forming a sheath at bottom, and purplish.

LEAVES heart-shaped, rounded, the edge unequally indented, the teeth reddish, underneath somewhat woolly, growing very large after the plant has flowered.

SCAPUS proceeding from the root, about seven inches high, round, hollow, whitish, woolly, covered with lanceolate scales or leaves of a purplish colour, ribbed, the lower ones often terminating in a small notched leaf.

THYRSUS first oval, then oblong, lastly nearly conical: the flower-stalks supporting one flower each, and furnished with floral-leaves.

FLORAL-LEAVES at the base of the flower-stalks lanceolate, purplish at top, delicate, and the length of the flower-stalk, fig. 1.

CALYX common to many florets, broad at top, and small at bottom, smooth, the scales or leaves nearly equal, lanceolate, and bending in somewhat at top, fig. 2.

COROLLA composed of many florets, all of which are hermaphrodite and tubular, of a pale purple colour, and funnel-shaped; the tube long and slender; the brim bell-shaped, divided into five segments, which are turned back, fig. 3.

ANTHERÆ purple, united into a tube, fig. 4.

PISTILLUM: GERMEN round and naked: STYLE whitish, longer than the Stamina: STIGMA thick, white, and bifid, fig. 5.

SEEDS oblong, withered, blackish, sterile, crowned with simple down, fig. 6.

RECEPTACLE naked.

THE Butterbur though differing widely from the Coltsfoot in the appearance of its bloom, yet agrees with it in many particulars; the root especially, possesses the same power of increasing the plant, by creeping under the earth to a very great distance; hence when once introduced into a garden, it is scarce to be rooted out, especially if the soil be a moist one. Was it not for this pernicious effect, the beautiful mode of its flowering, joined to its early appearance, would entitle it to a place in the gardens of the curious.

The blossoms, like those of the Coltsfoot, make their appearance before the leaves. If the spring be mild, the spike will be formed by the middle of March; but April is the month in which it oftener blows.

It does not, like the Coltsfoot, expand its pappus or down, but the flowers change to a dirty brown colour; and the seeds on examination, appear altogether barren. It appears difficult to account for the cause of this sterility, as the parts of the fructification seem evidently perfect.

This loss is however amply supplied in another way, as will be evident from the following experiment.

April the 1st. 1778, I planted in my garden a piece of the Butterbur root, two inches long, the thickness of the little finger, with a tuft of leaves to it. November the 3d. 1779, this root with its increase, was dug up, many of the shoots had extended themselves to the distance of six feet, and penetrated two feet in depth; the whole washed from the surrounding dirt, weighed eight pounds.

A very ingenious Swedish botanist informed me, that the early appearance of this plant, induced the rural oeconomist in Sweden, to plant it near their bees, who resort much to its blossoms. The above experiment shews that this custom should be adopted with caution, since where this plant abounds, the ground is so shaded with its ample leaves, as to produce few others.

The soil in which it flourishes most is a moist one, hence it is most commonly found on the banks of rivers and streams. Near London it grows on the north side of the River Thames, betwixt Westminster Bridge and Chelsea.

Formerly it was a medicine of great repute in pestilential and other fevers; but in the modern practice it is but little regarded.







Helianthus scaberrimus

TUSSILAGO FARFARA. COLTSFOOT.

TUSSILAGO *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus simplex. Cal. squamæ æquales, discum æquantes, submembranaceæ.

Raii Syn. Gen. 17. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORE DISCOIDE.

TUSSILAGO *Farfara* scapo unifloro imbricato, foliis subcordatis angulatis denticulatis. *Linnaei Syst. Vegetab. p. 629. Spec. Plant. p. 1214. Fl. Suecic. n. 743.*

PETASITES scapo unifloro; flosculis in ambitu lingulatis. *Haller hist. n. 143.*

TUSSILAGO *Farfara. Scopoli Fl. Carniol. n. 1059.*

TUSSILAGO vulgaris *Baubin pin. 197.*

TUSSILAGO *Gerard emac. 811.*

TUSSILAGO *Parkinson 1220. Raii Syn. p. 173, Common Coltsfoot. Hudson Fl. Angl. p. 315. Oeder Fl. Dan. icon. 595.*

RADIX prælonga, crassitie minimi digiti, albida, sub terra reptans et late se propagans, ex una parte folia ex altera flores emittens.

FOLIA subrotundo-cordata, anguloso-dentata, inferne tomentosa, albida, superne viridia sæpe cum tantillo tomenti.

SCAPI uniflori, striati, tomentosi, foliosi, foliolis lanceolatis, adpressis, rubicundis, peractâ florecentiâ nutantes, demum erecti.

CALYX (communis) cylindræus; squamis oblongis, acutis, alternis angustioribus, fig. 1, 2.

COROLLA composita, COROLLULÆ in disco hermaphroditæ, tubulosæ, flavæ; limbo quinquefidus, acuto, reflexo, fig. 4; ANTHERÆ in tubum coalitæ, apicibus acutis, fig. 5; GERMEN breve, fig. 8; STYLUS filiformis, Antheris longior, fig. 9; STIGMA capitatum, fig. 10.

COROLLULÆ in radio femineæ, flavæ, basi tubulosæ, limbus linearis, fig. 3; GERMEN oblongum, fig. 6; STIGMA bifidum, tenue, fig. 7.

SEMEN oblongum, pallide fuscum; PAPPUS sessilis, simplex, fig. 11.

ROOT very long, the thickness of ones little finger, whitish, creeping under the ground, and propagating itself far and wide; from one part of it sending forth leaves, from another part flowers.

LEAVES of a roundish heart-shaped figure, angular and indented, underneath downy and whitish; above green, oftentimes covered with a little down.

STALKS supporting one flower, channeled, downy, covered with leaves, which are lanceolate, pressed to the stalk and reddish, upright, when the blossoms are over hanging down, finally becoming upright.

CALYX (common to all the florets) cylindrical; the squamæ or little leaves oblong, pointed; the alternate ones narrowest.

COROLLA compound: the FLORETS in the center hermaphrodite, tubular, yellow; the limb divided into five segments, which are pointed and turn back, fig. 4: ANTHERÆ uniting into a tube, the tips pointed, fig. 5: the GERMEN short, fig. 8: the STYLE filiform, longer than the Antheræ, fig. 9: the STIGMA forming a little head, fig. 10.

FLORETS in the circumference yellow, at bottom tubular, the limb very narrow, fig. 3: GERMEN oblong, fig. 6: STIGMA bifid, slender, fig. 7.

SEED oblong, of a pale brown colour; Down standing on the seed, not feathered, fig. 11.

NEXT to the *Hazel*, the *Coltsfoot* is the first flower which appears with us in the Spring; and there is this remarkable circumstance attending it, that its blossoms come up generally at some distance from, and before its leaves: these are gathered by many persons who make a Syrup or Tea of them when dried, which is generally considered as a Pectoral, or useful in disorders of the Lungs. The leaves make a principal ingredient in the British Herb Tobacco.

As soon as the flowers are out of bloom, and the seeds with their Pappus or Down, as yet moist, are inclosed within the Calyx, the heads hang down as represented in the figure: as the moisture of the seeds and pappus evaporates, in ripening, they become lighter, and are again erected; and now the Pappus fully expands, and puts on somewhat the appearance of the Dandelion puff. I have noticed this peculiarity, as the like does not take place in the generality of compound flowers.

In *Charlton sand pits*, and many other places about Town, the *Coltsfoot* is plentiful enough; flowering in February and March.

Farmers are displeased with the appearance of this plant on their ground, as it not only indicates a poor, cold, and impoverished soil; but is with much difficulty, from the length of its creeping roots, effectually destroyed.

The

The custom of smoaking this plant, which still prevails, is of antient date: PLINY directs the dried leaves and root of *Colisfoot* to be burned, and the smoak drawn into the mouth through a reed and swallowed, as a remedy for an obstinate cough; the patient sipping some raisin wine with each draught of the smoak: "*Hujus aridae cum radice fumus, per Arundinem haustus et devoratus, veterem sanare dicitur tussim; sed in singulos haustus passum gustandum est.*" This is the only account amongst the antients, that we have hitherto been able to discover, which tends towards the practice of smoaking: but we cannot acquiesce in the common opinion, that smoaking of Tobacco, or at least some kind of plant, was unknown in the old world 'till SIR WALTER RALEIGH brought it from *America*. Is it probable that the inhabitants of *Africa* should so soon have universally adopted a custom from *Europe* that was unknown two centuries ago? Or that the *Asiatics*, so tenacious of their own manners, customs and habits, should in so small a time, have agreed to extend this uncouth kind of luxury over a vast continent, from the confines of *Constantinople* to the extremities of *China*?

Countries thinly inhabited are much molested with Gnats. Travellers tell us, that the *Northern Asiatic Tartars* constantly carry on their arms, during the Summer, a pot of burning Touchwood, sometimes prepared from the root of this plant, to defend themselves by the smoak, from the annoyance of these insects. It is probable one more ingenious than the rest contrived to keep this fire alive, by a communication with his breath; and this expedient by degrees produced a Tobacco-pipe. A propensity to intoxication, so natural to mankind, would give a preference to Tobacco before most other vegetable substances; and thus a custom that in the beginning was taken up for self-defence, at last might become a luxury.

The first discoverers of *America* probably found the natives smoaking Tobacco: but might they not bring this practice with them from the northern parts of *Europe* or *Asia*, which were never penetrated by the Roman arms; from whence it appears probable that *America* was peopled?

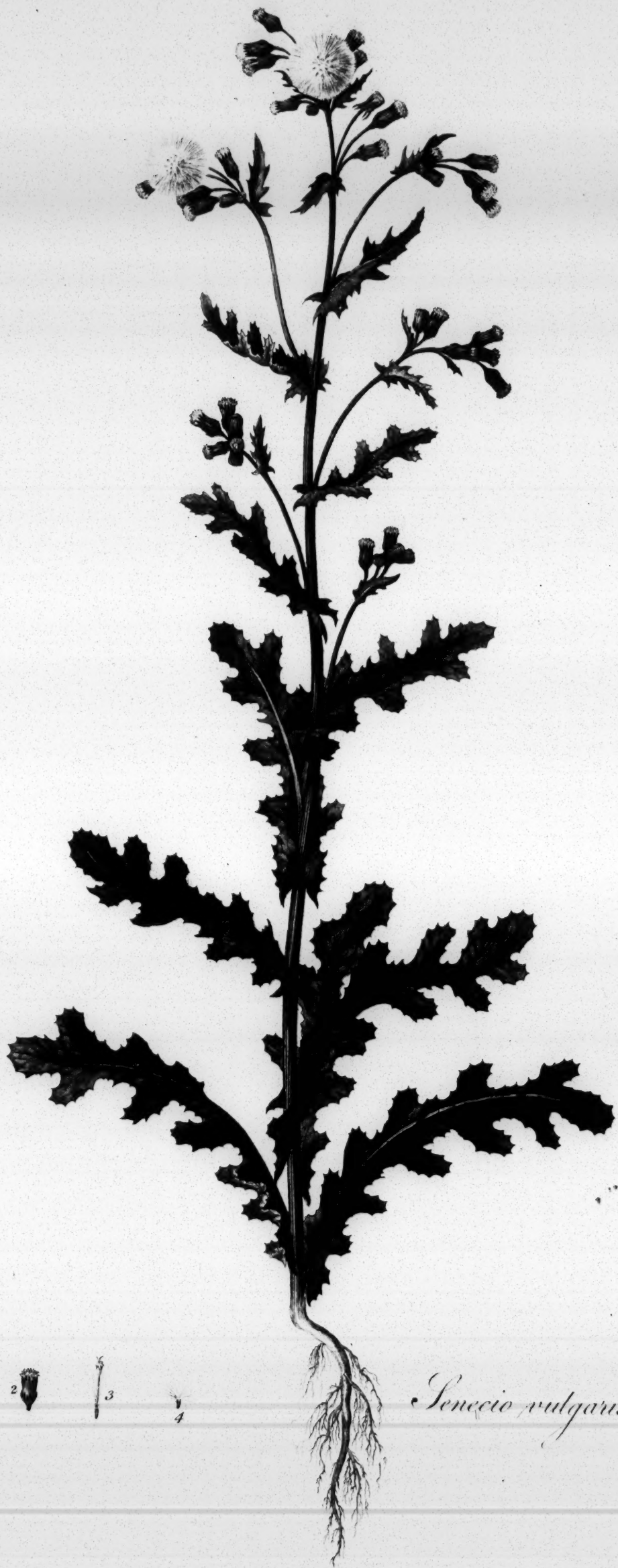
A room or bed-chamber may at any time be cleared from Gnats, by setting the windows open, and smoaking or burning some Tobacco, from which the insects are obliged immediately to escape. Those that are offended by its smell, may substitute this plant in its stead. But cultivated and inhabited countries are in a great measure defended from insupportable swarms of Gnats by a provision of nature little attended to. Of the four kinds of Swallows which frequent this island, whose food consists intirely of flying insects, three of them are domestic, and could with difficulty find suitable conveniencies for building their nests, without attaching themselves to the habitations of men, around which they are perpetually hawking for their prey: hence it is apparent why deserts particularly abound with Gnats.

The Poet observes that the Martin or Martlet, one species of swallow, chooses a delicate air for its residence. Who then can suffer its nest to be disturbed after reading the following lines? especially since this bird pays such a compliment to the sweetness of the situation?

—————"This guest of summer,
 "The temple-haunting Martlet, does approve,
 "By his lov'd mansionry, that heavens breath
 "Smells wooingly here: no jutting frieze,
 "Buttress, nor coigne of vantage, but this bird
 "Hath made his pendent bed and procreant cradle.
 "Where they most breed and haunt, I have observ'd
 "The air is delicate."

Although we have wandered from our subject, the candid and humane will forgive our interceding for a visitor, who claiming the rites of hospitality, places unreserved confidence in us, and seems directed by providence to attend on mankind for purposes the most friendly and beneficial.





Senecio vulgaris.

SENECIO VULGARIS. GROUNDSEL.

SENECIO *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA. *Receptaculum nudum. Pappus simplex.*

Calyx cylindricus, calyculatus; squamis apice sphacelatis.

Raii Syn. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORE DISCOIDE.

SENECIO *vulgaris* corollis nudis, foliis pinnato-sinuatis amplexicaulibus, floribus sparsis. *Linn. Syst. Vegetab.*

p. 630. Sp. Pl. 1216. Fl. Suecic. p. 290.

SENECIO corollis nudis, foliis pinnato-sinuatis amplexicaulibus, floribus sparsis. *Haller hist. n. 58.*

SENECIO *vulgaris. Scopoli Fl. Carniol. p. 162. n. 1063. Hudson Fl. Angl. p. 315.*

SENECIO minor *vulgaris. Baubin Pin. 181.*

SENECIO *vulgaris. Parkinson 671.*

ERIGERON *Gerard. emac. 278. Raii Syn. p. 178. Common Groundsel or Simfon.*

RADIX annua, e plurimis fibrillis albidis constans.
CAULIS simplex, erectus, pedalis, ramosus, sæpe purpureus, subangulosus, in junioribus plantis versus apicem subtomentosus.

FOLIA obscure virentia, glabra, amplexicaulia, pinnato-sinuata, pinnis acute dentatis.

PEDUNCULI striati, uniflori, primum erecti, perfecta florescentiâ penduli, demum erecti.

CALYX: *communis* primum cylindraceus, demum conicus; *Squamis* subulatis, plurimis, in cylindrum superne contractis parallelis, contiguis, æqualibus, paucioribus basin imbricatim tegentibus, apicibus omnium nigricantibus, *fig. 1.*

COROLLA *Composita*, longitudine calycis; *Corollulæ* hermaphroditæ, tubulosæ, numerosæ in disco, infundibuliformes; *limbo* reflexo, quinquefido: Radio nullo, *fig. 2, 3.*

STAMINA: FILAMENTA quinque, capillaria, minima; ANTHERA cylindracea, tubulosa.

PISTILLUM: GERMEN ovatum; STYLUS filiformis, longitudine flaminum; STIGMATA duo oblonga, revoluta.

SEMEN oblongum, striatum, fuscum; PAPPUS simplex, albus, femine triplo fere longior, *fig. 4*; RECEPTACULUM nudum, scabrum.

ROOT annual, consisting of numerous white fibres.
STALK single, upright, about a foot high, branched, often purple, slightly angular, in the young plants, towards the top, thinly covered with down.

LEAVES of a deep and dull green colour, smooth, embracing the stalk, pinnato-sinuated, the pinnæ sharply indented.

PEDUNCLES striated, supporting one flower on each, at first upright, when the flowering is over they become pendulous, and lastly upright.

CALYX; the *common* Calyx first cylindrical and lastly conical; the *Squamæ* subulate, numerous, contracted above into a Cylinder, parallel, contiguous and equal; those at the base of the calyx fewer, lying one over another, the tips of all of them blackish, *fig. 1.*

COROLLA *Compound*, the length of the Calyx; the *Florets* hermaphrodite, tubular and numerous in the disk or middle, funnel-shaped, the *limb* reflex and divided into five segments: the Radius wanting, *fig. 2, 3.*

STAMINA: FILAMENTS five, capillary, and very minute: ANTHERÆ united into a tube.

PISTILLUM: GERMEN oval; STYLE filiform the length of the Stamina; STIGMATA two, oblong, and bent back.

SEED oblong, striated and brown; the PAPPUS simple, white, almost three times the length of the seed, *fig. 4*; RECEPTACLE naked, and rough.

The Groundsel is a Plant which is well known to grow exceedingly common in Gardens, cultivated Ground, and on Walls, flowering all the year if the weather be mild.

Although it is scarcely used at present as a medicine, yet according to some Authors it is not without considerable virtues: the juice, or decoction of it taken internally, operates gently by vomit; and the plant externally applied, is said to be useful in inflamed Breasts, the Scrophula, and other Inflammations.

Mr. RAY suspects that it might be given with advantage in Worms, as Farriers and Horse-dealers give the juice of it to Horses that are troubled with those kind of Worms called *Bottes*, and to which it is presently fatal.

Birds of various kinds are fond of the seeds and tops of this plant; and a great variety of Caterpillars particularly those of the *Phalæna Jacobææ* eat it readily.







Senecio crucifolius.

SENECIO ERUCÆFOLIUS. HOARY RAGWORT.

SENECIO *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. *Pappus* simplex. *Cal.* cylindricus, calyculatus: squamis apice
sphacelatis.

Raii Syn. Gen. 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES FLORE
DISCOIDE.

SENECIO *erucæfolius* corollis radiantibus, foliis pinnatifidis dentatis subhirsutis, caule erecto. *Lin. Syst.*
Vegetab. p. 631. *Sp. Pl.* p. 1218. *Fl. Succ.* p. 750.

JACOBÆA altissima, foliis erucæ artemisiæve similibus et æmulis. *Rupp. Jen.* 164.

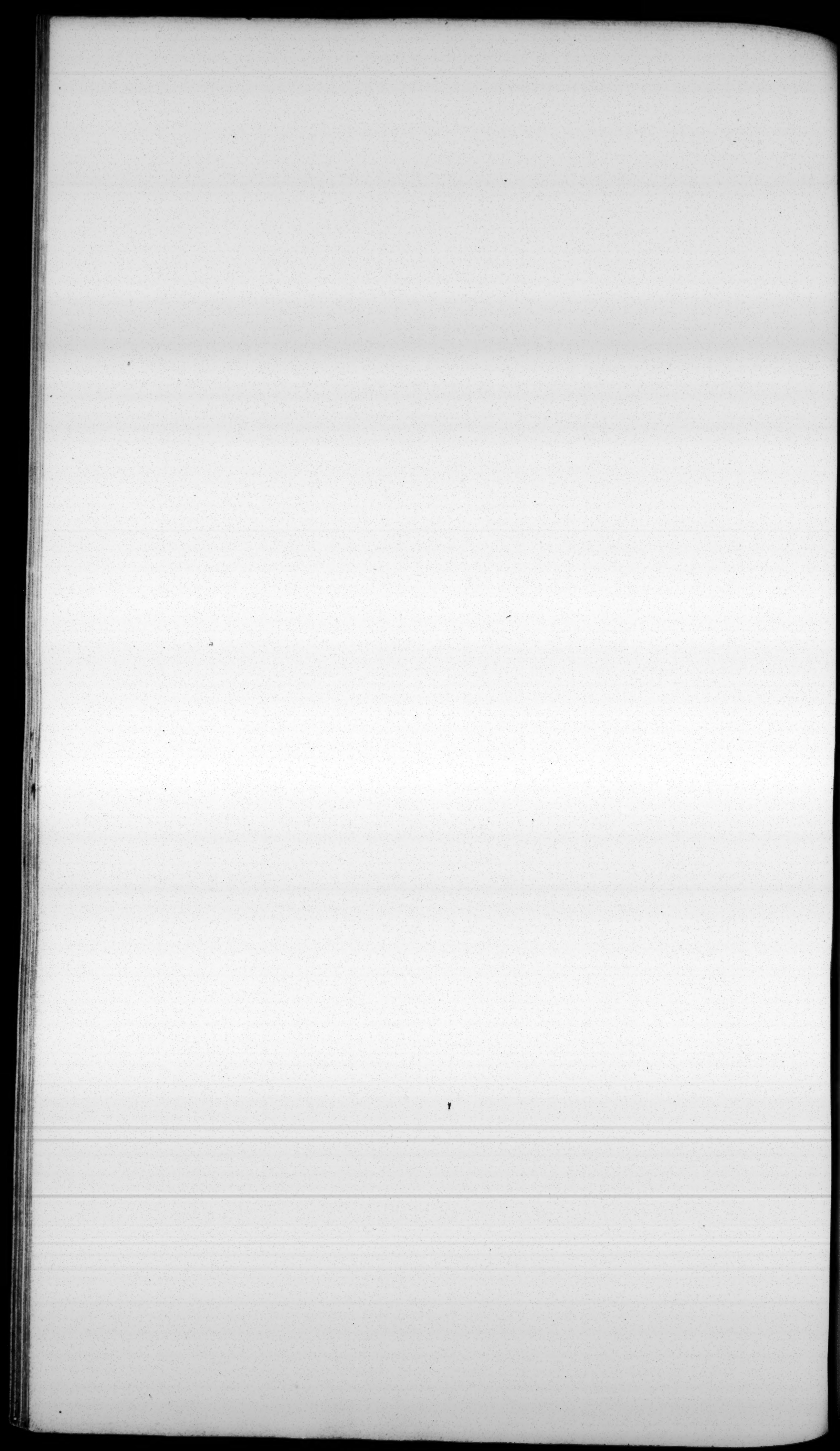
JACOBÆA Senecionis folio incano perennis. *Raii Syn.* p. 177. Hoary perennial Ragwort with
Groundsel leaves. *Hudson. Fl. Angl.* p. 366.

RADIX	perennis, alba, plures turiones crassitie pennæ anserinæ, unciales, aut biunciales, sapore in- grato, in sequentem annum proferens.	ROOT	perennial, white, putting forth against the next year several shoots, the thickness of a goose quill, an inch or two inches in length, of a disagreeable taste.
CAULIS	erectus, tripedalis, foliosus, rigidus, substri- tus, purpureus, lanuginosus.	STALK	upright, three feet high, leafy, rigid, slightly striated, purple and woolly.
FOLIA	alterna, semiamplexicaulia, subtus hirsuta, etiam incana, omnia pinnata seu potius pinna- tifida, pinnis linearibus, acutis, dentatis.	LEAVES	alternate, half embracing the stalk, hairy underneath, and sometimes white with down, all of them pinnated, or rather pinnatifid, the pinnæ linear, pointed and toothed.
FLORES	lutei, numerosi, corymbosi, magnitudine fere florum Senecionis Jacobæa.	FLOWERS	yellow, numerous, almost the size of the flowers of the common Ragwort, growing in a corymbus.
CALYX	communis sub-cylindræus, fulcatus, squamis tredecim, æqualibus, margine membranaceis, apicibus hirsuto-glandulosis, nulla nigredine tinctis, squamulis paucis linearibus adpressis ad basin, fig. 1.	CALYX	common to all the florets, somewhat cylindri- cal, grooved, scales thirteen in number, equal, membranous at the edge, the tips hairy and somewhat glandular, not tinged with black, furnished with a few linear scales at the base, which are pressed close, fig. 1.
COROLLA	composita, radiata, <i>Flosculi feminei</i> in radio tredecim circiter, patentes, oblongi, obsolete tridentati, fig. 2. <i>Hermaphroditi</i> numerosi in disco, limbo quinquefido, suberecto, fig. 3.	COROLLA	compound and radiate, <i>Female flowers</i> in the circumference about thirteen in number, spreading, oblong, faintly three-toothed, fig. 2. <i>Hermaphrodite flowers</i> in the center numerous, the limb divided into five segments and nearly upright, fig. 3.
STAMINA: FILAMENTA	quinque capillaria. AN- THERÆ in cylindrum coalitæ, fig. 5.	STAMINA: five capillary FILAMENTS. ANTHERÆ	united, and forming a cylinder, fig. 5.
SEMEN	oblongum, hispidulum, pappo sessili, simplici instructum, fig. 6.	SEED	oblong, a little hispid, furnished with sessile, simple down, fig. 6.

We have no doubt but the plant here figured is the *Jacobæa Senecionis folio incano perennis* of *Ray's Synopsis*, ed. 3. p. 177. It certainly has a less jagged, and more groundsel-like leaf, than the common Ragwort. Its leaves and stalks are also in general hoary, especially the latter*; and so far the description discriminates; but why perennial? since both the *aquaticus* and *Jacobæa*, with which it has the greatest affinity, are considered as perennial. We believe also, that our plant is the *Jacobæa altissima, foliis Erucæ artemisiæve similibus et æmulis* of *Rupp. Fl. Jen.* ed. Hall. p. 176. And as this descriptive name appears among those which LINNÆUS applies to his *Erucæfolius*, we consider ourselves warranted in adopting his name of *Erucæfolius*. Baron HALLER, who oftener makes species of varieties, than varieties of species, in the present instance considers this plant as a variety only of the *Jacobæa*. Professor JACQUIN, in his *Flora Austriaca*, gives a figure and description of a *Senecio*, which he calls *tenuifolius*; but as he adduces no synonyms, and as his figure differs in some respect from our plant, though we strongly suspect it to be the same, we dare not consider it as such.

The *Senecio Erucæfolius*, though not so common as the *Jacobæa*, is not unfrequent in the neighbourhood of London in certain situations, particularly in the environs of woods, under hedges, among bushes, &c. and no where more abundant than about the Oak of Honour Wood, near Peckham. The *Jacobæa*, on the contrary, delights to grow in open hilly pastures, church-yards, by road sides every where: nor do these plants differ less in their usual period of flowering; the *Erucæfolius* flowering chiefly in August, a month later than the other.

* This hoariness is most observable when the plant is young, or when it grows in a woody and hilly situation, which it chiefly affects. When it is found in a moist soil, or cultivated in a garden, it loses this character, in common with many other plants of the same class.







Inula Pulcaria

Sansoni sculp

INULA PULICARIA. SMALL FLEABANE.

INULA *Lin. Gen. Plant.* SYNGENESIA POLYGAMIA SUPERFLUA, *Recept. nudum. Pappus simplex.*

Antherae basi in setas duas definites.

Raii. Syn. Gen. 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORE DISCOIDE.

INULA *Pulicaria* foliis amplexicaulibus undulatis, caule prostrato, floribus subglobosis. *Lin. Sp. Pl. p. 1238.*

ASTER foliis amplexicaulibus, undulatis, hirsutis, radiis brevissimis. *Haller. Hist. n. 80.*

ASTER *Pulicarius. Scopoli Fl. Carn. n. 1080.*

CONYZA minor flore globoso. *Bauhin pin. 266.*

CONYZA minima. *Gerard emac, 482. Raii. Syn. p. 174.* small Fleabane.

Hudson. Fl. Angl. p. 369.

Oeder. Fl. Dan. icon. 613.

RADIX annua, fibrosa, albida, articulata, plerumque curvata.

CAULIS spithameus, raro ultra pedalem, nobiscum plerumque erectus, ramosissimus, teres, purpurascens, pubescens, subflexuosus; *Rami* alterni, cauli similes.

FOLIA alterna, oblongo-lanceolata, amplexicaulia, hirsutula, undulata, tortuosa.

FLORES parvi, numerosi, hæmisphærici, lutei, summitatibus ramulorum insidentes, pedunculati; post nati supra primos eminentes.

CALYX communis imbricatus, squamæ numerosæ, inæquales, sublineares, erectæ, tomentosæ.

COROLLA composita: *Corollulæ Hermaphroditæ* æquales, numerosissimæ in disco, limbo quinquefido, erecto, extus minutissime glanduloso, *fig. 5. Femineæ* ligulatæ, numerosæ, confertæ in radio; carinâ ad lentem scabriusculâ, *limbo brevissimo*, plerumque tridentato. *fig. 1.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERÆ flavæ, longitudine corollæ, singulis setis duabus tenuissimis ad basin instructis. *fig. 9, 10, 11.*

PISTILLUM: GERMEN Hermaphroditis et Feminæis oblongum, teres, album, pilis rigidulis subappressis hirsutum. *fig. 2, 4.* STYLUS corollâ longior; STIGMA bifidum, lacinis reflexis. *fig. 3, 6.*

SEMEN oblongum, nigricans, hispidulum, teres, pappo simplici, rigidulo, fragili, longitudine feminis coronatum. *fig. 8.*

RECEPTACULUM nudum, punctis prominulis scabrum. *fig. 7.*

ROOT annual, fibrous, whitish, jointed, generally crooked.

STALK from seven inches to a foot in height, seldom more, with us generally upright, very much branched, round, purplish, downy, somewhat crooked; *Branches* alternate, and like the stalk.

LEAVES alternate, oblong, and lanceolate, embracing the stalk, slightly hairy, waved at the edges and twisted.

FLOWERS small, numerous, hemispherical and yellow, sitting on the tops of the branches and having foot stalks, the last blown standing considerably above the others.

CALYX common to many florets, scales lying one over another, numerous, almost linear, upright, equal and woolly.

COROLLA compound, *Hermaphrodite Florets* equal, exceedingly numerous in the center, the limb divided into five upright segments, and externally very minutely glandular, *fig. 5. Female Florets* in the circumference flat at the extremity, numerous, close together, the keel or midrib underneath a little rough, the limb very short, usually terminating in three teeth. *fig. 1.*

STAMINA: five FILAMENTS, very fine; ANTHERÆ yellow, the length of the corolla, each furnished at bottom with two slender setæ or bristles. *fig. 9, 10, 11.*

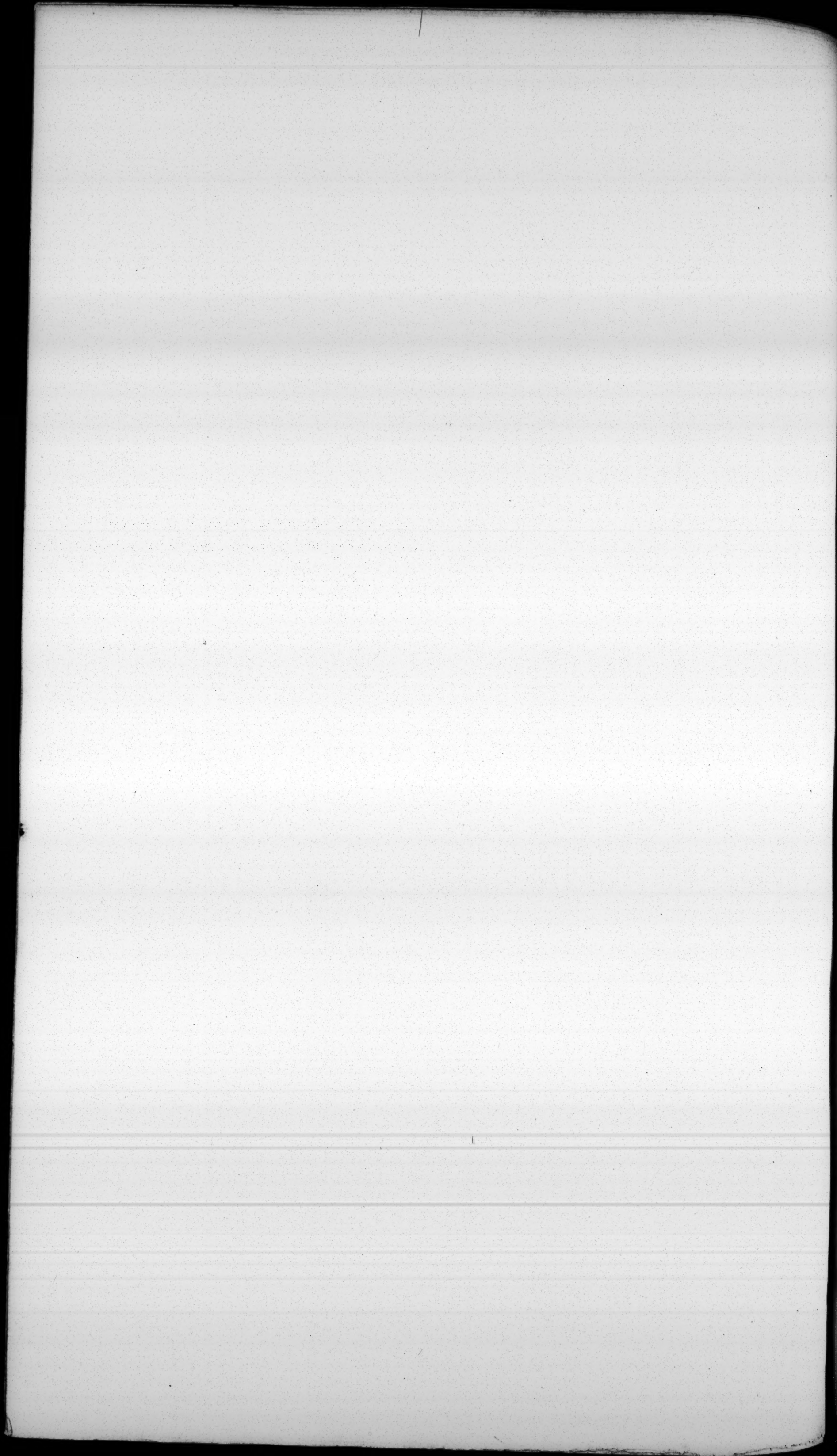
PISTILLUM: GERMEN both in the Hermaphrodite and Female Florets oblong, round, white, hirsute with stiffish hairs which are somewhat press'd to it; *fig. 2, 4.* STYLE longer than the corolla; STIGMA bifid, the segments turning back. *fig. 3, 6.*

SEED oblong, blackish, round and a little hispid, crown'd with a simple, stiffish, brittle down, the length of the seed. *fig. 8.*

RECEPTACLE naked, roughish from little prominent points. *fig. 7.*

LINNÆUS in his *Genera Plantarum* informs us that the *Inula* is principally characterized by having two small *Setæ* or *Bristles* proceeding from the base of each *Anthera*, and that it is by this circumstance in an especial manner distinguished from the Genus *Aster*, yet notwithstanding this, both *Haller* and *Scopoli* have thought proper to join it with that genus; although a peculiar character, it might perhaps be considered by them as too minute to found a Genus on, in this species it requires a good eye and some small dexterity to discover them, yet they are sufficiently visible; independent of them however, there is on the face of the two genera such an evident dissimilarity that a student would never expect to find them arranged together.

This species is not so common as the *dysenterica*, nor is it like that a perennial.—It generally grows in places overflowed in the winter, on the borders of Ponds particularly in a stiffish soil and flowers in September.







Inula dysenterica

Samson sculp.

INULA DYSENTERICA. COMMON FLEABANE.

INULA *Lin. Gen. Pl.* SYNGENESIA POLYG. SUPERFL.

Recept. nudum. *Pappus* simplex. *Antheræ* basi in duas fetas definites.

Raii. Syn. Gen. 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORE DISCOIDE.

INULA *dysenterica* foliis amplexicaulibus cordato-oblongis, caule villosa paniculato, squamis calycinis fetaceis. *Lin. Syst. Vegetab.* p. 637. *Lin. Spec. pl.* p. 1237. *Fl. Suecic.* n. 557.

ASTER foliis amplexicaulibus, undulatis, subtus tomentosis. *Haller. hist.* n. 79.

ASTER *Dysentericus. Scopoli. Fl. Carn.* n. 1079.

CONYZA media asteris flore luteo vel tertia dioscoridis. *Baub, pin.* 265.

CONYZA media Matthioli, flore magno luteo, humidis locis proveniens. *J. B. II.* 1050.

CONYZA media *Ger. emac.* 482. HERBA DYSENTERICA. *Cat. Aldorf. Raii. Syn.* p. 174. Middle Fleabane. *Hudson. Fl. Angl.* p. 368. *Oeder. Fl. Dan.* t. 410.

RADIX perennis, repens, albida, crassitie pennæ an-ferinæ, majusculis fibris donata.

CAULIS pedalis ad bipedalem, erectus, ramosissimus, teres, firmus, solidus, lanuginosus.

FOLIA alterna, conferta, patentia, amplexicaulia, oblonga, obscure serrata, inferne tomentosa, superne subhirsuta, obscure viridia.

RAMI plurimi, cauli similes, erecti, serioribus altius provectis.

FLORES flavi, procul conspicui, numerosi, subcorymbosi.

CALYX: communis, imbricatus, foliolis laxis, sublinearibus, hirsutis.

COROLLA composita, radiata, *Corollulæ* hermaphroditæ, æquales, numerosissimæ in disco. *Femineæ* ligulatæ, numerosæ, confertæ in radio. *Propria* Hermaphroditis infundibuliformis, limbo quinquefido, erectiusculo, *fig. 7. Feminæ* ligulata, sublinearis, tridentata. *fig. 1.*

STAMINA Hermaphroditis: FILAMENTA quinque, filiformia, brevissima. ANTHERA cylindrica, composita ex minoribus quinque linearibus, coalitis: singulis inferne definitibus in fetas duas rectas longitudine filamentorum.

PISTILLUM Hermaphroditis: GERMEN oblongum, hispidulum; STYLUS filiformis, longitudine staminum; STIGMA bifidum, reflexum *fig. 8.* *Femineis:* GERMEN ut in Hermaphrodito; *fig. 3.* STYLUS longitudine tubi, STIGMA bifidum. *fig. 2.*

PAPPUS pilosus. *fig. 4. 5. 6.*

ROOT perennial, creeping, whitish, the thickness of a goose quill, furnished with largish fibres.

STALK from one to two feet high, upright, very much branched, round, firm, solid, with a woolly surface.

LEAVES alternate, set thickly together, spreading, embracing the stalk, oblong, obscurely serrated, underneath woolly, above somewhat hirsute, of a dull green colour.

BRANCHES numerous, like the stalk, upright, the latest growing to the greatest height.

FLOWERS yellow, conspicuous at a distance, numerous, and forming a kind of corymbus.

CALYX: common to many florets, the leaves placed one over another, somewhat linear and hirsute.

COROLLA compound and radiate, hermaphrodite *Florets* equal and exceedingly numerous in the center. *Female* ligulate, numerous, growing close together, in the circumference. *Each* Hermaphrodite floret funnel shaped, the limb divided into five segments which are nearly upright, *fig. 7. Female* ligulate, somewhat linear, terminating in three teeth, *fig. 1.*

STAMINA in the Hermaphrodite flower; five FILAMENTS thread-shaped and short. ANTHERÆ forming a cylindrical tube, composed of five smaller linear ones united, each terminating below in two strait setæ or threads the length of the filaments.

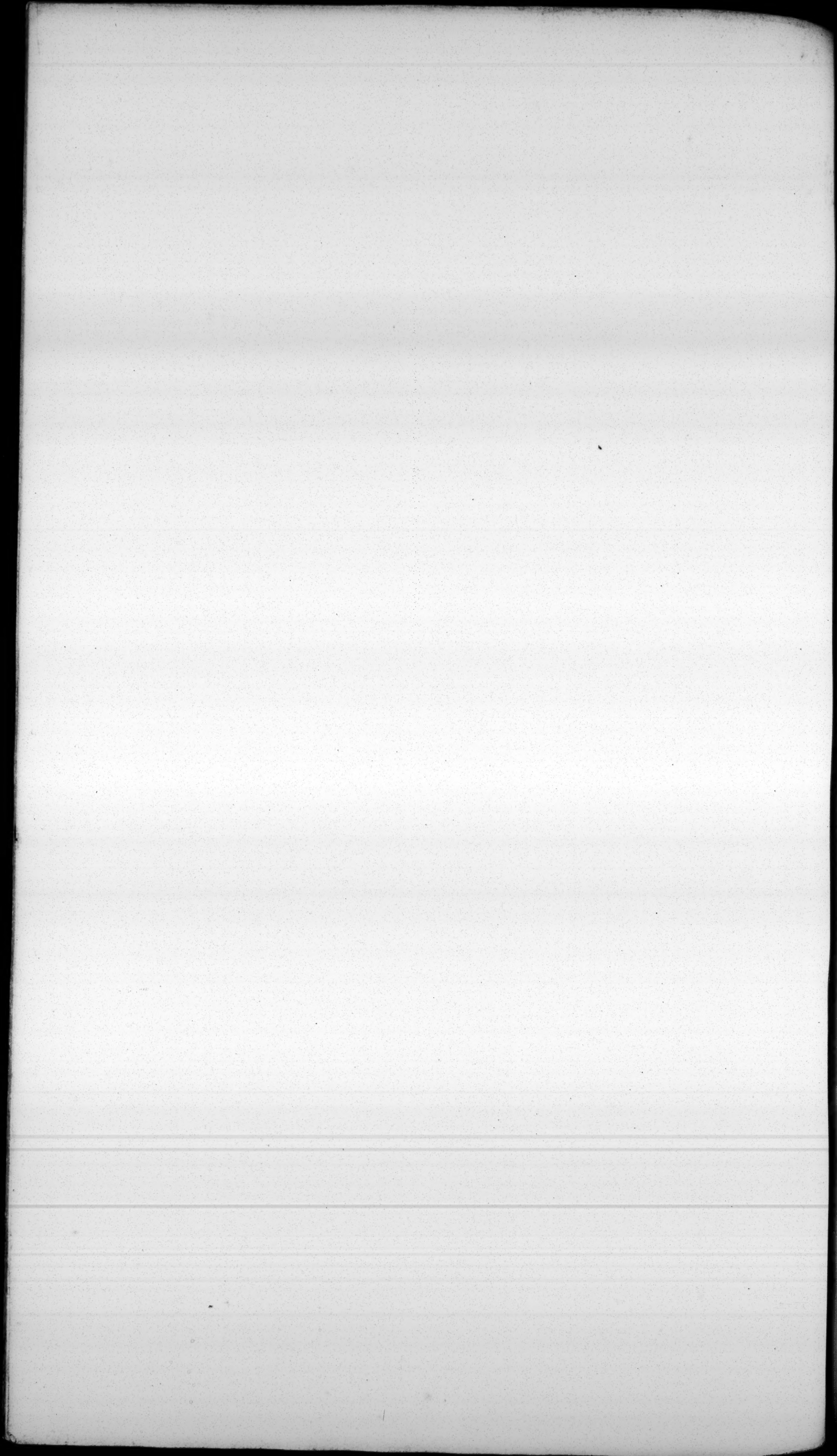
PISTILLUM of the Hermaphrodite florets: GERMEN oblong and somewhat hispid; STYLE thread-shaped, the length of the stamens; STIGMA bifid and turning back. *fig. 8.* of the female *Florets;* GERMEN as in the Hermaphrodite ones. *fig. 3.* STYLE the length of the tube; STIGMA bifid.

DOWN hairy. *fig. 4, 5, 6.*

At the close of the year this plant contributes not a little to enliven and beautify the sides of our moist ditches, to the Farmer it however affords no very pleasing spectacle when it overruns as it frequently does large tracts of Land and gives it a barren uncultivated appearance.

LINNÆUS in his *Flora Suecica* mentions his having been informed by General *Keit* that the Russians in their expedition against the Persians were cured of the Bloody Flux by means of this plant, whence it has probably obtained its name of *dysenterica*, had it possessed any efficacy in this disease superior to the medicines in general use it would most probably have been retain'd in the present practice. RAY has observed that the leaves when bruised smelt like Soap, RUTTY informs us that the juice is saltish and warms the mouth a little, that the decoction is somewhat acrid in the throat, at the same time astringent and turning green with vitrol of Iron, that the infusion is somewhat astringent, very bitter in the throat, and turning black with vitriol of Iron.

Cattle in general dislike it.







BELLIS PERENNIS. COMMON DAISY.

- BELLIS. *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.
Raii Synopsis Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.
 BELLIS *perennis*, scapo nudo. *Linnaei System. Vegetab. p. 640.* *Fl. Suecic. p. 296.* *Haller hist. p. 39.* *Scopoli. Fl. Carniol. v. 2. 146.*
 BELLIS *sylvestris minor* *Baubin pin. 261.* *Gerard emac. 635.* *Parkinson 530.* *Raii Syn. p. 184.* *Hudson Fl. Angl. 320.* *Oeder. Fl. Dan. icon. 503.*

RADIX	<i>perennis</i> , fibrosa.	ROOT	perennial, and fibrous.
FOLIA	ovata, dentata, hirsutula, in petiolos longos decurrentia; disructa fila trahentia.	LEAVES	oval, indented, slightly hirsute, running down the footstalks, which are long and if broke across appear stringy.
SCAPI	teretes, hirsuti, triunciales, uniflori, ad apicem fistulosi.	STALKS	round, hirsute, about three inches high, supporting one flower, at top hollow.
CALYX	<i>communis simplex</i> , foliolis æqualibus <i>fig. 1.</i> apice membranaceis, hirsutis, obtusis <i>fig. 2.</i> lente auct.	CALYX	the <i>common</i> calyx simple, the leaves equal, <i>fig. 1.</i> at the top membranous, hairy and obtuse, <i>fig. 2.</i> one of the tips magnified.
COROLLA	<i>composita</i> , radiata: <i>Corollulæ</i> hermaphroditæ, tubulosæ, numerosæ in disco. <i>Femineæ</i> ligulatæ, calycis foliis plures in radio. Flosculi <i>Hermaphroditi</i> infundibuliformes quinquefidi flavi, <i>fig. 3, 4.</i> lente auct: <i>Femineæ</i> ligulati, lanceolati, albi, <i>fig. 10.</i>	COROLLA	<i>Compound</i> and radiated: the <i>Corollulæ</i> or flosculi in the disk or middle numerous, tubular, and <i>hermaphrodite</i> , those in the radius or circumference flat, more numerous than the leaves of the calyx, and <i>female</i> . the <i>Hermaphrodite</i> Flosculi funnel shaped, divided into five segments and yellow, <i>fig. 3, 4.</i> magnified. The <i>Female</i> flosculi tubular at bottom, flat towards the extremity, lanceolate, and white, <i>fig. 13.</i>
STAMINA	<i>Hermaphroditi</i> : FILAMENTA quinque brevissima, <i>fig. 5.</i> ANTHERA cylindracea, tubulosa, <i>fig. 6.</i>	STAMINA	in the <i>Hermaphrodite</i> flower: five FILAMENTS very short, <i>fig. 5.</i> ANTHERÆ united into a tube, <i>fig. 6.</i>
PISTILLUM	<i>Hermaphroditi</i> : GERMEN ovatum, <i>fig. 9.</i> STYLUS filiformis, <i>fig. 8.</i> STIGMA crassiusculum, bifidum, <i>fig. 7.</i> <i>Femineæ</i> : GERMEN ovatum, <i>fig. 13.</i> STYLUS filiformis. STIGMATA duo patula, linearia, <i>fig. 11.</i>	PISTILLUM	of the <i>Hermaphrodite</i> flower: GERMEN oval, <i>fig. 9.</i> STYLE thread-shaped, <i>fig. 8.</i> STIGMA thickish and bifid, <i>fig. 7.</i> of the <i>Female</i> flower: GERMEN oval, <i>fig. 9.</i> STYLE thread-shaped, two STIGMATA narrow and spreading, <i>fig. 11.</i>
SEMINA	ovata, compressa, marginata, pappo destituta, <i>fig. 14.</i>	SEEDS	oval, flat, margin'd without any pappus or down, <i>fig. 14.</i>
RECEPTACULUM	nudum, conicum, <i>fig. 15.</i>	RECEPTACLE	naked and of a conical figure, <i>fig. 15:</i>

The Daisy has been recommended by some writers to be given in hectic fevers, caused by drinking cold water when the blood has been heated by exercise, either infused in water or milk.

In some parts of Germany, it is said to be boiled and eaten with meat as a pot-herb; but it does not seem to promise much either as physic or food for man. Sheep and horses refuse it, and it is very probable that none of our cattle eat it willingly; if so the owners of lands pay dear for their enamelled meads, and daisied carpets, but this part of husbandry seems as yet little understood or attended to. As rural æconomists we have ventured to say thus much in dispraise of this flower, notwithstanding the lavish encomiums the father of our English poets has bestowed on it:

———— In special one called Se of the daie

The Däisie, a floure white and rede,
 And in french called *La bel Margarete*
 O commendable floure, &c. ———

———— Above all flouris in the mede

Than love I most those flouris white and rede
 Such that men call in Daisies in our Town.

Chaucer is perhaps the first that takes notice of the Horologium Floræ or opening and shutting of flowers at a particular time of the day.

———— She that is of all flouris the floure,

Fullfilled of all virtue and honoure;
 And ever alike fair and fresh of hewe,
 As well in winter as in summer newe,
 As soon as ever the Sunne ginneth West
 To sene this floure, how it will go to rest,
 For fear of night so hateth she darknesse
 Her chere is plainly spread in the brightnesse
 of the Sunne. ———

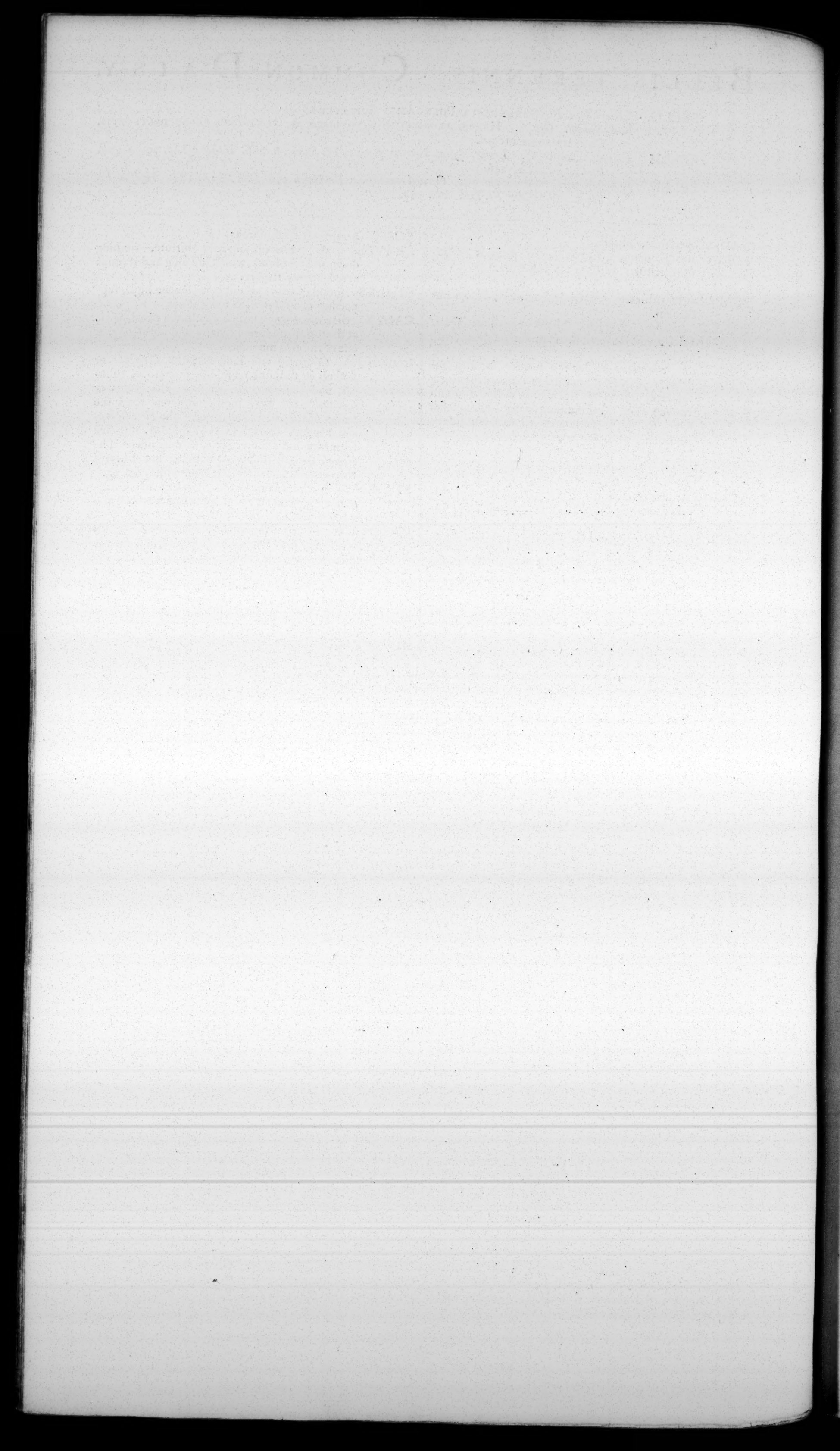
Well by reason men it calle maie
 The Däisie, or else the Eye of the Daie
 And at the last there tho began anon
 A Lady for to sing right womanly
 A Bargonet in praising the Däisie
 For as methought among her notis swete
 She said *Si douce est la Margarete*

Retuned by Dryden in his own numbers:

And then the Band of Flutes began to play,
 To which a Lady sung a Virelay;
 And still at every close she would repeat
 The Burden of the Song the *Daisy is so sweet*
The Daisy is so sweet when she begun
 The troops of Knights and Dames continued on
 The Comfort and the voice so charm'd my Ear
 And sooth'd my Soul that it was Heaven to hear.

Etymologists agree with the Old Bard in his derivation of the Daisy, viz. Days Eye. Under the French name *Margarete* it is probable a compliment was intended to some lady, but Critics are not agreed who this lady was.

Like many other flowers the Daisy becomes double by culture, and frequently *proliferous*, in this state it is called the *Hen and Chicken* Daisy.







Chrysanthemum Legetum.

CHRYSANTHEMUM SEGETUM. CORN CHRYSANTHEMUM, OR MARIGOLD.

Linna. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus marginatus. Cal. hæmisphericus, imbricatus, squamis marginalibus membranaceis.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO, DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

CHRYSANTHEMUM *segetum* foliis amplexicaulibus, superne laciniatis, inferne dentato-ferratis. *Linna. Syst. Veg. ed. 14.* *Murr. p. 773.* *Sp. Pl. p. 1254.*

BELLIS lutea, foliis profunde incis, major. *Bauh. Pin. 262.*

CHRYSANTHEMUM *segetum.* *Ger. emac. 743.* nostras. *Park. 1370.* *segetum.* *Raii Syn. p. 182.* Corn Marigold. *Hudson Fl. Angl. ed. 2. p. 371.*

RADIX annua, tenuis, perpendicularis, parum fibrosa, albida.

CAULIS pedalis et ultra, erectus, ramosus, teretiusculus aut obsolete angulatus, glaber, nitens, glaucescenti-viridis, cavus, in pedunculos continuatus. Rami breviusculi.

FOLIA remotiuscula, alterna, sessilia, semiamplexantia, erecto-patula, variantia, oblonga aut oblongo-subovata, basi latiora, subsagittata, subauriculata, nonnulla supra basin coarctata, versus apicem latiora, margine dentata, dentibus, nunc remotioribus nunc approximationibus aut laciniata, laciniis obtusiusculis, apice acuta, sæpe trifida, lævia, mollia, leviter venosa, utrinque glauca.

FLORES solitarii, flavi, magni.

PEDUNCULI suberecti, cavi, superne incrassati, uniflori.

CALYX communis, hemisphericus, imbricatus, squamis arcte incumbentibus, ovatis, virentibus, interioribus per gradus majoribus, intimis terminatis margine scariosa, tenuissima, membranacea, lacera, subfusca.

COROLLA composita, radiata; Corollulæ disci hermaphroditæ, numerosæ, longitudine calycis, tubulosæ, quinquefidæ, fig. 2. Corollulæ radii femineæ, circa 16 aut 18, ligulatæ, oblongæ, truncatæ, emarginatæ, sæpe tridentatæ, lineis duabus impressis exarata, fig. 1.

STAMINA hermaphroditis, FILAMENTA 5, capillaria, brevissima, flava; ANTHERA cylindracea, tubulosa, concolor, corolla paulo brevior.

PISTILLUM hermaphroditis uti femineis; GERMEN ovatum, compressum, margine membranaceum; STYLUS filiformis, staminibus longior, concolor; STIGMATA duo, revoluta, flava.

SEMINA oblonga, utrinque obtuse truncata, fulcata, subangulata, subincurva, pallide fusca, fig. 3, 4.

RECEPTACULUM nudum, punctatum, convexum.

ROOT annual, slender, perpendicular, slightly fibrous, and whitish.

STALK a foot or more in height, upright, branched, nearly round or slightly angular, smooth, shining, of a glaucous green colour, hollow, continued into peduncles. Branches rather short.

LEAVES somewhat remote, alternate, sessile, half embracing the stalk, betwixt upright and spreading, variable, oblong, or oblong with a tendency to ovate, broadest at the base, somewhat arrowshaped and slightly ear'd, some of them narrowed above the base, and broadest towards the top, the edge toothed, the teeth sometimes nearer to each other, sometimes more remote, or jagged, the segments a little blunt, the extremity pointed, often trifid, smooth, soft, slightly veiny, and glaucous on both sides.

FLOWERS growing singly, yellow, large.

FLOWER-STALKS nearly upright, hollow, thickened above, one-flowered.

CALYX common to all the florets, hemispherical, imbricated, the scales lying closely one over the other, ovate, greenish, the inner gradually largest, the innermost ones terminated by a margin sonorous to the touch, very thin, membranous, torn, brownish.

COROLLA compound, radiate. Florets of the disk, hermaphrodite, numerous, the length of the calyx, tubular, divided into five segments, fig. 2. Florets of the radius female, about 16 or 18, flat, oblong, truncated, emarginate, often three-toothed, and scored with two impressed lines, fig. 1.

STAMINA in the hermaphrodite florets, five, capillary, very short FILAMENTS of a yellow colour; ANTHERÆ of the same colour, forming a tubular cylinder, a little shorter than the corolla.

PISTILLUM in the hermaphrodite florets the same as in the female; GERMEN ovate, flattened, margin membranaceous; STYLE thread-shaped, longer than the stamina, and of the same colour; STIGMATA two, rolled back, and yellow.

SEEDS oblong, obtusely truncated at each end, grooved, somewhat angular, a little bent, of a pale brown colour, fig. 3, 4.

RECEPTACLE naked, dotted, and convex.

The *Chrysanthemum segetum*, as its name imports, is a plant peculiar to corn fields; in the neighbourhood of London it is not frequent, but in many parts of England, as well as in other parts of Europe, in such soils as are favourable to its growth, it abounds to that degree as almost to annihilate the crop sown; hence laws have been enacted, and fines imposed, in Denmark, Saxony, and some parts of Scotland, for the purpose of obliging the husbandman to keep his lands clear of it.

The weeding of corn fields from such incroaching plants as the present, either by the hand, or the weeding-hook, according to the nature of the plant, is a practice much followed in those countries which are best cultivated: there is this satisfaction attends it, while it promotes the Farmer's interest, it gives employment to a great number of industrious women and girls. To the prevalence of this practice it is that we are indebted for one of the finest sights a cultivated country affords, extensive fields of corn, without a single obtruding weed; and on this practice the Farmer we apprehend may place a firmer reliance, than on the mode which LINNEUS recommends for its extirpation, viz. by dunging the land, suffering it to lie fallow for one year, and harrowing it five days after sowing the corn.

It is not a little remarkable, that this plant should never have been found with double flowers; if it had, there is no doubt, but from the brilliancy of their colour, it would long since have contributed to ornament our gardens as well as the *C. coronarium* and *inodorum*, which are of the same genus.





Chrysanthemum Leucanthemum.

Linnaeus & Ray.

CHRYSANTHEMUM LEUCANTHEMUM. COMMON OX-EYE, or GREATER DAISY.

CHRYSANTHEMUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus marginatus. Cal. hemisphaericus, imbricatus, squamis marginalibus membranaceis.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

CHRYSANTHEMUM *Leucanthemum foliis amplexicaulibus oblongis; superne ferratis; inferne dentatis. Lin. Syst. Vegetab. ed. 14. p. 772. Sp. Pl. p. 1251. Fl. Succ. n. 763.*

MATRICARIA *foliis radicalibus petiolatis, ovatis, crenatis, caulinis amplexicaulibus dentatis. Haller hist. 98.*

MATRICARIA *Leucanthemum. Scopoli Fl. Carn. n. 1041.*

BELLIS *sylvestris caule folioso major. Bauh. Pin. 261.*

LEUCANTHEMUM *vulgare. Tourn. 492.*

BELLIS *major. Ger. emac. 634.*

BELLIS *major vulgaris five sylvestris. Parkins. 528. Raii Syn. p. 184. The Greater Daisy, or Ox-Eye. Lightfoot Fl. Scot. p. 488. Hudson. Fl. Angl. ed. 2. p. 371.*

RADIX	perennis, fusca, subrepens, fibrosa.	ROOT	perennial, brown, somewhat creeping, and fibrous.
CAULIS	pedalis, sesquipedalis et ultra, erectus, rigidus, angulosus, inferne purpurascens, hirsutus, superne nudus, simplex, subinde ramosus.	STALK	a foot or a foot and a half high or more, upright, rigid, angular, below purplish and hairy, above naked, simple, sometimes branched.
FOLIA	radicalia a caulinis diversissima, petiolis longis infidentia, obovata, vix pubescentia, incisoferrata, caulina alterna, sessilia, amplexicaulia, linearia, extrorsum latiora, remote denticulata, denticulis ad basin crebrioribus et longioribus.	LEAVES	next the root very different from those of the stalk, standing on long footstalks, obovate, scarcely downy, deeply sawed, those of the stalk alternate, sessile, stem-clasping, linear, outwardly broadest, distantly toothed, teeth at the base more crowded and longest.
FLORES	pedunculati, terminales, solitarii, magni, speciosi.	FLOWERS	standing on footstalks, terminal, single, large, and showy.
PEDUNCULI	striati, subincrassati.	FLOWER-STALKS	finely grooved, and somewhat thickened.
CALYX	communis hemisphaerico-planus, arte imbricatus, squamis exterioribus oblongo-ovatis, obtusiusculis, margine membranaceis, fuscis, interioribus lanceolatis, acutis.	CALYX	common to all the florets, like a hemisphere flattened, closely imbricated, exterior scales oblong-ovate, somewhat blunt, the margin membranous and brown, interior scales lanceolate and pointed.
COROLLA	composita, radiata; Discus luteus, convexus; Radius albus patens.	COROLLA	compound and radiate; Centre yellow and convex; Circumference white and spreading.
COROLLULÆ	Hermaphroditæ, tubulosæ, numerosæ, infundibuliformes, quinquefidæ, in disco, fig. 1. Femininæ 16 circiter, in radio, oblongæ, obtusæ, tricenatæ, fig. 5.	FLORETS	Hermaphrodite tubular, numerous, funnel-shaped, divided into five segments, in the centre, fig. 1. Female about 16 in the circumference, oblong, obtuse, three-notch'd, fig. 5.
ANTHERÆ	flavæ, in tubum coalitæ, fig. 2.	ANTHERÆ	yellow, forming a tube, fig. 2.
PISTILLUM	Hermaphroditis: GERMEN oblongum, striatum, angulatum, glabrum, fig. 3. STYLUS filiformis, flaminibus longior; STIGMATA duo, subrevoluta, superne ad lentem canaliculata, apicibus truncatis, crassiusculis, fig. 4. Feminis GERMEN et STYLUS ut in Hermaphroditis; STIGMA sub simile, laciniis minus revolutis, fig. 6.	PISTILLUM	of the Hermaphrodite flowers: GERMEN oblong, finely grooved, angular, smooth, fig. 3. STYLE filiform, longer than the stamina; STIGMATA two, rolled a little back, on the upper part channelled if magnified, the tips truncated and thickish, fig. 4. of the Female flowers, GERMEN and STYLE as in the Hermaphrodite flowers; STIGMA somewhat similar, but less rolled back, fig. 6.
SEMEN	oblongum, basi attenuatum, undique profunde sulcatum, ex nigro-purpurascens, fig. 7, 8. fig. 9. auct.	SEED	oblong, slenderer towards the base, deeply grooved all round, and purplish black, fig. 7, 8. fig. 9. magn.

This species of Chrysanthemum is extremely common in meadows and pastures, sometimes even on walls, and in corn-fields; it is a hardy perennial, increases greatly by seed, and flowers in June and July.

As it is so prevalent in pastures, it is of no small consequence to ascertain how far it is agreeable to cattle, and, on such occasions, the only guide we have at present to consult, are the experiments of LINNÆUS; from those it appears that kine and swine refuse it, but that horses, sheep, and goats feed on it.

The fresh leaves chewed, discover a sweetish, unpleasant, slightly aromatic taste, somewhat like Parsly, but not hot or biting; they have been recommended in disorders of the breast, both asthmatical and pthical, and as diuretics, but are now seldom called for.

As such a number of beautiful double varieties of the Common Daisy are met with in almost every garden, it has often been matter of wonder to us, that we never see this plant in a similar state: I have indeed been very credibly informed, that two double varieties of this plant exist in a garden near Air in Scotland, but never yet saw them.







Matricaria Chamomilla.

et de vasis del. et sculp.

MATRICARIA CHAMOMILLA. CORN FEVERFEW, OR CAMOMILE.

MATRICARIA *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus nullus. Cal. hemisphæricus, imbricatus; marginalibus solidis, acutiusculis.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

MATRICARIA *Chamomilla* receptaculis conicis, radiis patentibus, squamis calycinis margine æqualibus. *Lin. Syst. Vegetab. p. 643. Sp. Pl. p. 1256. Fl. Suec. n. 764.*

MATRICARIA foliis planis capillaribus, duplicato-pinnatis, pinnulis lanceolatis bifidis trifidisque. *Haller. hist. n. 101.*

CHAMÆMELUM vulgare, *Leucanthemum* Dioscoridis. *Bauh. pin. 135.*

CHAMÆMELUM *Gerard. emac. 754.*

CHAMÆMELUM vulgare *Parkins. 85. (qui vulgare cum nobili confundit) Raii Syn. p. 185. Hudson Fl. Angl. ed. 2. p. 372. Lightfoot Fl. Scot. p. 491.*

RADIX annua, simplex, fibrosa.

CAULIS pedalis, ad sesquipedalem, erectus, ramosus, subangulosus, striatus, lævis.

FOLIA saturate viridia, alterna, sessilia, lævia, pinnata, pinnis linearibus, inferioribus simplicibus, superioribus ramosis, pinnulis acutis, mucronatis, divaricatis, costa semilineam lata, carinata.

PEDUNCULI erecti, striati, nudi, superne subincrassati.

FLORES albi, disco e luteo-virescente.

CALYX communis hemisphæricus, squamis plurimis, imbricatis, obtusiusculis, apice fuscescentibus, submembranaceis, longitudine fere tubi flosculorum femineorum in radio, fig. 1.

FLOSCULI radii 13 circiter, feminei, oblongi, sesquilineam lati, bifurci, tridentati, dentibus obtusiusculis, fig. 2. STIGMA bifidum, flavum, laciniis reflexis, fig. 3.

FLOSCULI disci, numerosi, tubulosi, hermaphroditi, quinqueidentati, fig. 4. STIGMA bifidum, laciniis reflexis, fig. 5.

SEMINA numerosa, minuta, pallide fusca, oblonga, sulcata, fig. 6.

RECEPTACULUM oblongum nudum.

ROOT annual, simple, and fibrous.

STALK a foot, or a foot and a half high, upright, branched, somewhat angular, striated, and smooth.

LEAVES of a deep green colour, alternate, sessile, smooth, pinnated, the pinnæ linear, the lower ones simple, the upper ones branched, the pinnulæ or small pinnæ sharp and terminating in a short point, divaricating, the midrib half a line broad, and keeled.

FLOWER STALKS upright, striated, naked, a little thickened above.

FLOWERS white, the disk of a yellowish-green colour.

CALYX common to all the florets, hemispherical, scales numerous, imbricated, somewhat obtuse, the tips brownish, and a little membranous, almost the length of the tube of the female flowers in the circumference, fig. 1.

FLOWERS of the radius about 13 in number, female, oblong, a line and a half broad, two-grooved, three-toothed, teeth bluntish, fig. 2. STIGMA bifid, yellow, the segments turned back, fig. 3.

FLOWERS of the disk, numerous, tubular, hermaphrodite, five-toothed, fig. 4. STIGMA bifid, the segments turned back, fig. 5.

SEEDS numerous, minute, of a pale brown colour, oblong and grooved, fig. 6.

RECEPTACLE oblong and naked.

The *Matricaria Chamomilla*, *Anthemis Cotula*, and *Chrysanthemum inodorum*, are three very common plants in the neighbourhood of London; as the two first are extremely similar in their general appearance, and are often found growing together, we have published them in the same number, that an opportunity might be afforded of comparing and contrasting them.

PARKINSON, deceived by their great similarity, makes only one plant of them; *Mayweed*, says he, is so like unto Chamomile, that I must needs join them together.

The student who is acquainted with the mode of investigating the generic character of each, will quickly distinguish the one from the other; on dissecting the heads, he will find the pointed paleæ which are fixed to the receptacle of the *Anthemis* totally wanting in the *Matricaria*; but this knowledge, though highly necessary, is not sufficient for those who would wish to know plants at first sight, which is always desirable; we shall therefore, in addition to the generic character, point out several others, in which they have appeared to us materially to differ from each other.

Their place of growth affords but little distinction, they are both natives of corn-fields, both grow in them in the greatest abundance, often together, frequently separate, nor is it unusual to find them on the confines of dunghills, and by road-sides; they both flower at the same time, from May to July and August, both are annuals, and grow nearly to the same height, but in the following particulars they differ: the whole plant in the *Matricaria* puts on a deep green colour, and somewhat shining appearance; the *Anthemis*, on the contrary, assumes a much paler hue, and the stalk is often covered with a kind of woolly substance: the leaves in the *Matricaria* are nearly as fine as those of fennel, which they distantly resemble; in the *Anthemis* they are almost twice as broad, and the points of them, which in the *Matricaria* are simple, in the *Anthemis* are often bifid.

The Petals in both these plants begin to hang down in the evening, and continue to do so till morning; but those of the *Anthemis* are in general much broader than those of the *Matricaria*, and somewhat shorter; but, in this particular, both plants are subject to great variation; the disk of the flower in the *Anthemis* is not so prominent, but of a lighter yellow than that of the *Matricaria*. Such are the characters which present themselves to the eye of an accurate observer, but there is another which will greatly assist to corroborate, confirm, and render it impossible for the plants to be mistaken, viz. the smell; if the heads of the *Matricaria* are bruised, they will be found to emit a strong smell, somewhat resembling the true Chamomile, but not so pleasant, while the heads of the *Anthemis*, treated in the same manner, smell intolerably disagreeable; another circumstance may also be added, the *Matricaria* is not known to blister the skin, in which alone it is perhaps less mischievous to the husbandman than the other: nor is the character which may be drawn from the seeds to be despised, those of the *Anthemis* being broad and truncated at top, wrinkly, and of a deep brown colour when ripe, those of the *Matricaria* much smaller, paler, and different in their shape, vid. fig. 6.

July 7th, we discovered several larvæ feeding on this species, which produced the *Cassida viridis*.—Cattle in general refuse the *Matricaria*.—In Sweden the flowers are used medicinally instead of the *Anthemis nobilis*.

Mr. HUDSON, in our opinion, is perfectly justified, in making one plant of the *Matricaria Chamomilla* and *suaveolens*; Mr. LIGHTFOOT, in his *Flora Scotica*, previously suggested that they were the same. We are surprised that Professor MURRAY should adopt a species founded on such vague characters as *radiis deflexis* and *radiis patentibus*.







Anthemis Cotula.

ANTHEMIS COTULA. STINKING MAYWEED.

ANTHEMIS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. paleaceum. Pappus nullus. Cal. hemisphaericus, subaequalis. Flosculi radii plures quam 5.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE SEMINIBUS PAPPO DESTITUTIS CORYMBIFERÆ DICTÆ.

ANTHEMIS *Cotula receptaculis conicis: paleis setaceis, feminibus nudis. Lin. Syst. Vegetab. p. 646. Sp. Pl. p. 1261. Fl. Succ. n. 767.*

CHAMÆMELUM *foliis glabris, duplicato-pinnatis, nervo foliaceo, pinnulis lanceolatis feminibus exasperatis. Haller hist. 104.*

ANTHEMIS *Cotula. Scopoli Fl. Carn. n. 1092.*

CHAMÆMELUM *fætidum. B. Pin. 135.*

CHAMÆMELUM *fætidum seu Cotula fætida I. B. III. 120.*

COTULA *alba Dod. Pempt. 258. Raii Syn. p. 185. Stinking Mayweed. Hudson. Fl. Angl. ed. 2. p. 373. Lightfoot Flor. Scot. p. 495.*

Tota planta fœtidissima, sublanuginosa.

RADIX annua, simplex, fibrosa.

CAULIS pedalis ad bipedalem, erectus, subangulatus, striatus, pubescens, ramosus, sæpe usque ad basin.

FOLIA alterna, sessilia, sublanuginosa, pinnata, costa lineam lata, subtus carinata, pinnis plerumque ramosis, planis, acutis, superne punctis impressis, nudo oculo conspicuis notata.

PEDUNCULI erecti, striati, nudi, superne subincrassati.

FLORES albi, disco luteo, minime virescente.

CALYX communis, hæmisphaericus, imbricatus, squamis pallide virentibus, exterioribus obtusis, fusco marginatis, carina saturatius virente.

FLOSCULI radii tredecim circiter, feminei, subovati, lineas duas fere lati, obtusi, binerves, tridentati, dentibus obtusis, fig. 1. pars tubulosa flosculi ut ut *Germen*, glandulis pellucidis, nudo oculo conspicuis ornata, fig. 2. *Stigma* bifidum, laciniis reflexis, sæpe mancum, fig. 3.

FLOSCULI disci numerosi, tubulosi, hermaphroditi, quinque-dentati, fig. 4. *Stigma* bifidum, laciniis revolutis, fig. 6. *Germen* ut ut corolla ad lentem glandulosa, fig. 5.

SEMEN obtuse tetragonum, fuscum, rugosum, apice planum, puncto in vertice prominulo, excavato, inferne attenuatum, fig. 7. auct.

RECEPTACULUM subcylindraceum, superne paleis setaceis, rigidis instructum, fig. 8.

The whole plant extremely fetid, and slightly woolly.

ROOT annual, simple, and fibrous.

STALK from one to two feet high, upright, somewhat angular, finely grooved, downy, branched often almost to the bottom.

LEAVES alternate, sessile, slightly woolly, pinnated, the midrib a line broad, keeled underneath, the pinnæ for the most part branched, flat, pointed, on the upper side marked with impressed dots visible to the naked eye.

FLOWER STALKS upright, finely grooved, naked, somewhat thickened above.

FLOWERS white, the centre yellow, without any tendency to green.

CALYX common to all the florets, hemispherical, imbricated, the scales of a pale green colour, the outer ones blunt, and edged with brown, the keel more deeply coloured.

FLOWERS of the *radius* about thirteen, female, nearly ovate, almost two lines broad, obtuse, two-rib'd, terminating in three obtuse teeth, fig. 1. the tubular part of the floret as well as the *Germen*, ornamented with transparent glands, visible to the naked eye, fig. 2. *Stigma* bifid, the segments reflexed, often imperfect, fig. 3.

FLOWERS of the *disk* numerous, tubular, hermaphrodite, five-tooth'd, fig. 4. *Stigma* bifid, the segments rolled back, fig. 6. *Germen* as well as the corolla, when magnified, studded with little glands, fig. 5.

SEED bluntly four-cornered, brown, wrinkled, flat at top, with a prominent hollow point in the centre, below slenderer, fig. 7. magnified.

RECEPTACLE nearly cylindrical, on the upper part furnished with rigid, bristle-shaped paleæ or chaff, fig. 8.

The *Anthemis Cotula*, like the *Matricaria Chamomilla*, is very common in corn-fields, where it is well known frequently to blister the skin of the reapers, or of children who may happen to gather it, which the *Matricaria* never does;—if the plant be examined with a microscope, it will be found besprinkled with little glands, in which its acrid matter most probably resides.

Independent of this quality, it abounds to that degree in some corn-fields, as greatly to diminish the crop.

It is fond of a soil well manured, and as it is frequently suffered to seed on dunghills, it by that means often becomes more generally diffused: farmers cannot be too careful in weeding their dunghills; they are not aware of the amazing increase from a single plant of the *Anthemis Cotula*, *Rumex crispus*, *Chenopodium album*, or many others equally, if not more, injurious.

We have observed the petals to vary much in length and breadth, and Botanists have sometimes found it with double flowers.

It differs greatly in its qualities from the *Anthemis nobilis* and *Matricaria Chamomilla*, has never been much in use, nor are its medicinal effects well known. Decoctions of it are said sometimes to have been employed as a bath or fomentation against hysteric suffocations, and hæmorrhoidal pains and swellings. Mr. RAY says, that a decoction of the herb has by some been given internally, with success, in scrophulous cases. BROWN LANGRISH gives an account of a decoction of it throwing a person afflicted with rheumatism into a profuse sweat, and curing him. *Lewis's Mat. Med. p. 223. Vid. Matricaria Chamomilla.*







Achillea Millefolium

ACHILLEA MILLEFOLIUM. COMMON YARROW, or MILFOIL.

Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. paleaceum. Pappus nullus. Cal. ovatus, imbricatus. Flosculi radii circiter quinque.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO, DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

ACHILLEA *Millefolium* foliis bipinnatis, nudis; laciniis linearibus, dentatis; caulibus superne fulcatis.

Linn. Syst. Veg. ed. 14. Murr. p. 778. Sp. Pl. p. 1267.

ACHILLEA foliis pinnatis, pinnis longe æqualibus, pinnatis, pinnulis trifidis et quinquefidis. Hall.

Hist. 107. Scop. Fl. Carn. 1095.

MILLEFOLIUM vulgare. Bauh. Pin. 140. Park. 693. terrestre vulgare. Ger. em. 1072. vulgare. Raii Syn. 183. Common Yarrow, or Milfoil. Hudson Fl. Angl. ed. 2. p. 374.

RADIX perennis, repens, teres, fibrillosa, cinereo albida.

CAULIS pedalis et ultra, erectus, teretiusculus, subangulatus, inferne glaber, tomento tenui araneoso vestitus, superne fulcatus, lanuginosus, ramosus.

FOLIA alterna, lineari-lanceolata, radicalia petiolata, petiolis canalicularibus, caulina sessilia, subamplexantia, supra glabra, subtus villosula, pinnata, pinnis oppositis, subovatis, multifidis, acutiusculis, obliquis.

FLORES in corymbo terminali, lanuginoso congesti, albidii.

BRACTEÆ lineares, integræ, et pinnatifidæ, parvisculæ, ad radios pedunculosque corymbi.

CALYX communis ovatus, pubescens, arcte imbricatus, squamis ovatis, concavis, obtusiusculis, albo; membranaceis, apice fusco ciliatis, nervo dorsali viridi.

COROLLA composita, radiata; Corollulæ disci hermaphroditæ, circiter duodecim, infundibuliformes, calycis longitudine, tubo fordide lutescente, limbo quinquefido, laciniis ovatis, acutis, revolutis, subdiaphanis, albidis, fig. 1.

COROLLULÆ radii fæmineæ, plerumque quinque, planæ, patentes, suborbiculares, obtuse tridentatæ, seu obsolete trifidæ, lacinula intermedia brevior, tubo cylindrico, viridescente, striato, subpubescente, calycis longitudine, fig. 2.

STAMINA Hermaphroditis: FILAMENTA quinque, capillaria, breviora; ANTHERA cylindracea, tubulosa, lutea, fig. 3.

PISTILLUM Hermaphroditis et Fæmineis: GERMEN oblongum, compressiusculum, subtetragonum, glabrum, albidum; STYLUS capillaris, staminibus longior; STIGMATA duo, linearia, truncata, reflexo-patula, hyalina, fig. 4.

ROOT perennial, creeping, round, furnished with numerous fibres, of a whitish ash-colour.

STALK a foot high or more, upright, nearly round, slightly angular, below smooth, covered with a flight cobwebby down, above grooved, woolly, and branched.

LEAVES alternate, betwixt linear and lanceolate, the radical ones standing on foot-stalks, the foot-stalks hollowed above, those of the stalk sessile, somewhat embracing the stalk, above smooth, beneath a little villous, pinnated, the pinnæ opposite, somewhat ovate, multifid, somewhat pointed and oblique.

FLOWERS whitish, terminating in a woolly, close corymbus.

BRACTEÆ linear, entire and pinnatifid, smallish, placed at the radii, and peduncles of the corymbus.

CALYX common to all the florets ovate, downy, closely imbricated with ovate, concave, bluntish scales, having a white, membranous edge, tipped with a brown fringe, the midrib green.

COROLLA compound, radiated, FLORETS of the disk hermaphrodite, about twelve, funnel-shaped, the length of the calyx, tube dirty yellow, the limb quinquefid, the segments ovate, pointed, rolled back, rather transparent and whitish, fig. 1.

FLORETS of the radius female, usually five, flat, spreading, somewhat round, bluntly three-toothed or faintly trifid, the middle segment shorter than the rest, the tube cylindrical, greenish, striated, slightly downy, the length of the calyx, fig. 2.

STAMINA in the Hermaphrodite flowers: five, capillary, short FILAMENTS; ANTHERÆ forming a yellow, tubulous cylinder, fig. 3.

PISTILLUM in the Hermaphrodite and Female flowers, GERMEN oblong, a little flattened, somewhat four-cornered, smooth, whitish; STYLE very slender, longer than the stamens; STIGMATA two, linear, truncated, a little reflexed, pellucid, fig. 4.

The Yarrow is a plant extremely common with us in dry pastures, on ditch-banks, and by road-sides: it flowers from July to September, its blossoms are usually white, but are frequently found of different shades from a pale to a deep red, the most brilliant of which are cultivated in our gardens for ornament.

Though the Yarrow constitutes a very large part of the pasturage of this kingdom, our agriculturists are not agreed whether to consider it as a plant to be cultivated, or extirpated.

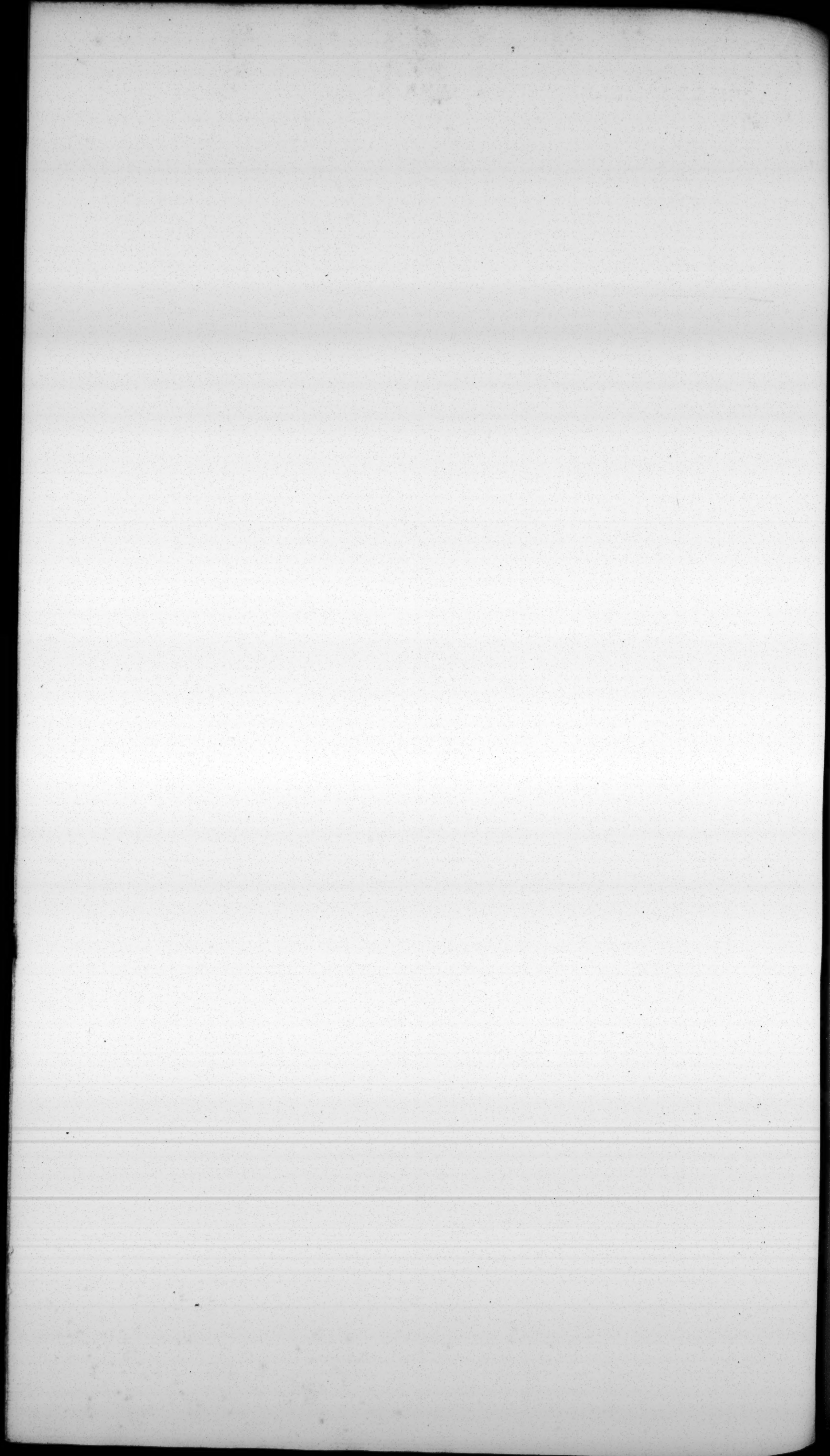
According to LINNEUS's experiments, it was eaten by sheep, horses, and swine; kine and goats sometimes eat, sometimes rejected it; if we are to be influenced by the predilection which most of these animals have shewn for it, and are satisfied with the mode in which the experiments were conducted, we should consider it worthy of cultivation. Mr. ANDERSON, who in general is too precipitate in his encomiums on new plants, speaks very highly in its favour; he observes, that though cattle do not eat its flowering stems, which remain, and give the pasture a disagreeable appearance, they are very fond of its foliage, which as it forms a close pile, or as some express it, a good bottom, makes it one of the most desirable grasses (speaking in the language of husbandry) the Farmer can sow his land with; but he concludes this plant seems to be altogether unfit for hay, and therefore ought only to be sown where the field is intended for pasturage.

The leaves and flowers of Milfoil are greatly recommended by some of the German Physicians, as mild corroborants, vulneraries, antispasmodics, in diarrhoeas, hemorrhages, hypochondriacal, and other diseases.

They promise by their sensible qualities to be of no inconsiderable activity. They have an agreeable, though weak, aromatic smell, and a bitterish, roughish, somewhat pungent taste. The leaves are chiefly directed for medicinal use, as having the greatest bitterishness and austerity: the flowers have the strongest and most subtle smell, are remarkably acrid, and promise to be of most efficacy, if the plant has really any such efficacy as an anodyne or antispasmodic.

The virtue of the leaves and flowers is extracted both by watery and spirituous menstrua, the astringency most perfectly by the former, their aromatic warmth and pungency by the latter, and both of them equally by a mixture of the two. The flowers distilled with water yield a penetrating essential oil, possessing the flavour of the Milfoil in perfection, though rather less agreeable than the flowers themselves, in consistence somewhat thick, and tenacious, in colour remarkably variable, sometimes of a greenish yellow, sometimes of a deep green, sometimes of a bluish green, and sometimes of a fine blue: these differences seem to depend in great measure on the soil in which the plant is produced. Lewis's Mat. Med. p. 424.

In some parts of Sweden they put it to beer in a fermenting state to produce inebriation. Linn. Fl. Suec.







Achillea Millefolium.

ACHILLEA PTARMICA. SNEEZEWORT.

ACHILLEA *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. paleaceum. Pappus nullus. Cal. ovatus, imbricatus. Flo- culi radii circiter 4.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS corymbiferæ DICTÆ.

ACHILLEA *Ptarmica* foliis lanceolatis acuminatis argute ferratis. *Lin. Syst. Vegetab. p. 647. Sp. Pl. p. 1266. Fl. Succic. n. 771.*

ACHILLEA foliis linearibus lanceolatis acutissime ferratis. *Haller hist. 117.*

DRACUNCULUS ferrato folio pratensis. *Bauh. p. 198.*

PTARMICA *Ger. emac. 605. Park. 859. Raii Syn. p. 183. Sneezewort, Baillard-Pellitory, Goose-Tongue. Hudson, Fl. Angl. 375. Lightfoot, Fl. Scot. p. 495.*

RADIX	perennis, repens, alba, subgeniculata, fibris majusculis et longissimis donata, e geniculis exeuntibus, sapore acri et fervido.	ROOT	perennial, creeping, white, somewhat jointed, furnished with large and very long fibres which proceed from the joints, of a hot acrid taste.
CAULIS	pedalis ad tripedalem, erectus, plerumque simplex, rigidulus, inferne teres, glaber, superne subangulatus, villosus, paniculatum ramosus.	STALK	from one to three feet high, upright, generally simple, somewhat rigid, below round and smooth, above slightly angular, villous, and branching out into a kind of panicle.
FOLIA	numerosa, alterna, sessilia, amplexicaulia, linearia, acuta, bivel tripollicaria, utrinque glabra, lucidiuscula, saturate viridia, margine retrorsum scabra, subcrenata; crenis minutim ferrulato aculeatis; subtus trinervia; nervis longitudinalibus, quorum intermedius est colla.	LEAVES	numerous, alternate, sessile, embracing the stalk, linear, pointed, two or three inches long, smooth on both sides, and somewhat shining, of a deep-green colour, the edge rough, if the finger be drawn along it, from the top to the base, somewhat crenated, the notches forming a sharp prickly kind of saw, underneath having two longitudinal ribs, beside the midrib.
CORYMBUS	terminalis, compositus, erectus, villosus, foliosus.	CORYMBUS	terminal, compound, upright, villous, and leafy.
BRACTEÆ	lineares in pedunculis.	FLORAL-LEAVES	linear on the flower-stalks.
CALYX	communis hæmisphericus, subtomentosus, imbricatus, squamis ovato-lanceolatis, erectis, subcarinatis, margine rufis, subciliatis.	CALYX	common to all the florets, hemispherical, somewhat woolly; the scales composing it placed one over another, of an oval-pointed shape, upright, somewhat keeled, the margin reddish, and slightly edged with hairs.
COROLLA	composita, radiata, flores femineæ in radio, ligulatæ, numero 8-10, lamina ovata, alba, patens, bifurca, apice obtusa, tridentata, fig. 1. tubus marginatus, brevis, longitudine germinis, apice rubellus, fig. 2. flores hermaphroditi in disco numerosi, tubus subcylindraceus, marginatus, virescens; limbus quinquefidus, albus, tubo brevior, laciniis subrevolutis, fig. 3.	COROLLA	compound and radiate, female flowers in the circumference, tubular at bottom and spreading at top, from 8 to 10 in number, the lamina ovate, white, spreading, with two grooves, blunt at top, with three small blunt teeth, fig. 1. the tube two-edged, short; the length of the germen, and reddish at top, fig. 2. hermaphrodite flowers numerous in the centre, the tube nearly cylindrical, two-edged, greenish, the limb white, divided into five segments, shorter than the tube, the segments somewhat rolled back, fig. 3.
STAMINA	in hermaphroditis; FILAMENTA quinque, capillaria; ANTHERÆ flavæ, in tubum coalitæ, fig. 4.	STAMINA	in the hermaphrodite flowers; FILAMENTS five, very fine; ANTHERÆ yellow, uniting in a tube, fig. 4.
PISTILLUM	in femineis et hermaphroditis: GERMEN compressum, turbinatum; STYLUS filiformis; STIGMATA duo, revoluta, apicibus obtusis, fig. 5.	PISTILLUM	in the female and hermaphrodite flowers; GERMEN flattened, broadest at top; STYLE thread-shaped; STIGMATA two, rolled back, the ends blunt, fig. 5.
SEMINA	plurima, nuda, utrinque subalata, nitida, apice truncata.	SEEDS	numerous, naked, having a kind of wing on each side, shining, and cut off as it were at top.
RECEPTACULUM	paleaceum, squamis membranaceis, lineari-lanceolatis, obtusis, vix longitudine florum.	RECEPTACLE	chaffy, the scales membranous, of a shape betwixt linear and lanceolate, blunt, scarcely the length of the flowers.

The dried powder of this plant snuffed up the nostrils provokes sneezing, hence it has acquired its name of *Sneezewort*; chewed in the mouth, like Pellitory of Spain, it promotes the flow of the saliva, and is found serviceable in the cure of the tooth-ach: these appear to be the only medicinal purposes to which it is applied.

In its double state, it has long been an ornament in gardens, and distinguished by the name of *Batchelors Buttons*; having a creeping and very increasing root, it requires more care to destroy than to increase it.

It is a common plant in wet pastures and on heaths, and may be found in plenty by the sides of the ditches in Battersea-Meadows, where it flowers in July and August.





Centaurea Cyanus

CENTAUREA CYANUS. CORN BLUE-BOTTLE.

CENTAUREA. *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA FRUSTRANEA.

Receptaculum setosum. *Pappus* simplex. *Cor.* radii infundibuliformes, longiores, irregulares.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

CENTAUREA *Cyanus* calycibus ferratis, foliis linearibus integerrimis: infimis dentatis. *Linn. Syst. Vegetab. ed.* 14. *Murr.* p. 785. *Sp. Pl. ed.* 3. p. 1289. *Fl. Succ. n.* 776. *Lightfoot Fl. Scot. v.* 2. p. 499. Blue-bonnets. *Scot. Augst. Hudf. Fl. Angl. ed.* 2. p. 375.

CYANUS foliis imis ellipticis, dentatis, supremis linearibus, semiflosculis latissimis. *Haller Hist. n.* 191.

CENTAUREA *Cyanus.* *Scop. Fl. Carn.* 2. p. 138.

CYANUS segetum. *Baub. Pin.* 273.

CYANUS vulgaris. *Ger. Herb.* p. 592.

CYANUS minor vulgaris diverforum colorum. *Park. Theat.* p. 481. *Raii. Syn. ed.* 3. p. 198. Blue-bottles.

RADIX annua, subsusiformis, lignosa, fibrosa.

CAULIS erectus, bi-tripedalis, subangulatus, tomento araneoso vestitus, fistulosus, ramosus; Rami erecti, caule altiores.

FOLIA caulina alterna, sessilia, linearia, 3 ad 5 nervia, acuta, pagina superior alba, tomentosa, inferior viridis, nudiuscula, infima radicalia in adolescenti planta multo latiora, obtusiora, et subintegra, iis proxima plus minusve dentata, aut laciniata.

FLORES læte cærulei, inodori; Pedunculi simplices, superne incrassati.

CALYX communis subrotundus, imbricatus, squamis lanceolatis, interioribus longioribus, integris, superne rufescentibus, apice fibris fuscescentibus ciliatis; exterioribus brevioribus, ferratis, ferraturis reflexis.

COROLLA composita, flosculosa, difformis, *Corollulae hermaphroditee* plurimæ in disco, *fig. 2. femineæ* pauciores, majores, laxæ in radio, *fig. 1. propr. hermaph.* 1-petala, tubo filiformi, obliquo, limbo ventricoso, oblongo, erecto, terminato laciniis 5-linearibus, erectiusculis, *femineis* 1-petala, tubo tenui, sensim ampliato, recurvo, limbo oblongo, inæqualiter diviso, subplicato, laciniis lanceolatis.

STAMINA *hermaphroditis*: FILAMENTA 5, capillaria, brevissima; ANTHERA cylindracea, tubulata, corolla paulo longior.

PISTILLUM *hermaphroditis*: GERMEN parvum; STYLUS filiformis, longitudine staminum; STIGMA obtusissimum, acumine bifido prominens. *Femineis*: GERMEN minimum; STYLUS vix ullus; STIGMA nullum.

SEMINA *hermaphroditis* solitaria; Pappus setaceus, *fig. 3.*

ROOT annual, somewhat spindle-shaped, woody, and fibrous.

STALK upright, two or three feet high, somewhat angular, covered with a kind of cobwebby down, hollow, branched; the Branches upright, taller than the stalk.

LEAVES of the stalk alternate, sessile, linear, from three to five-ribbed, pointed, the upper side white, and cottony, the under side green, with scarcely any cottony substance, the lowermost radical leaves in the young plant much broader, blunter, and for the most part entire, the next to them more or less toothed or jagged.

FLOWERS of a bright blue colour and scentless; Flower-Stalks simple, thickened above.

CALYX common to all the florets, nearly round, imbricated, scales lanceolate, the inner ones longest, entire, reddish above, fringed at top with little brownish fibres; the outer ones shorter, serrated, the teeth reflexed.

COROLLA compound, flosculose, misshapen; the *hermaphrodite florets* in the centre numerous, *fig. 2. the female florets* in the circumference fewer, larger, and loose, *fig. 1. each single hermaphrodite floret* monopetalous, the tube filiform, oblique, the limb bellying, oblong, upright, terminating in five linear nearly upright segments, the *female florets* monopetalous, the tube slender, gradually enlarging and bent back, the limb oblong, unequally divided, somewhat folded, the segments lanceolate.

STAMINA of the *hermaphrodite* flowers: FILAMENTS five, capillary, very short; ANTHERÆ forming a cylindrical tube, a little longer than the corolla.

PISTILLUM of the *hermaphrodite* flowers: GERMEN small; STYLE filiform, the length of the stamina; STIGMA very blunt, with a prominent bifid point. Of the *Female* flowers: GERMEN very minute; STYLE scarcely any; STIGMA none.

SEEDS from the *hermaphrodite* florets, solitary; Pappus or Down bristly, *fig. 3.*

Few of the vegetable tribes are more hardy than the Corn Blue-Bottle; its seedling plants, which come up abundantly in Autumn, brave the severest frosts.

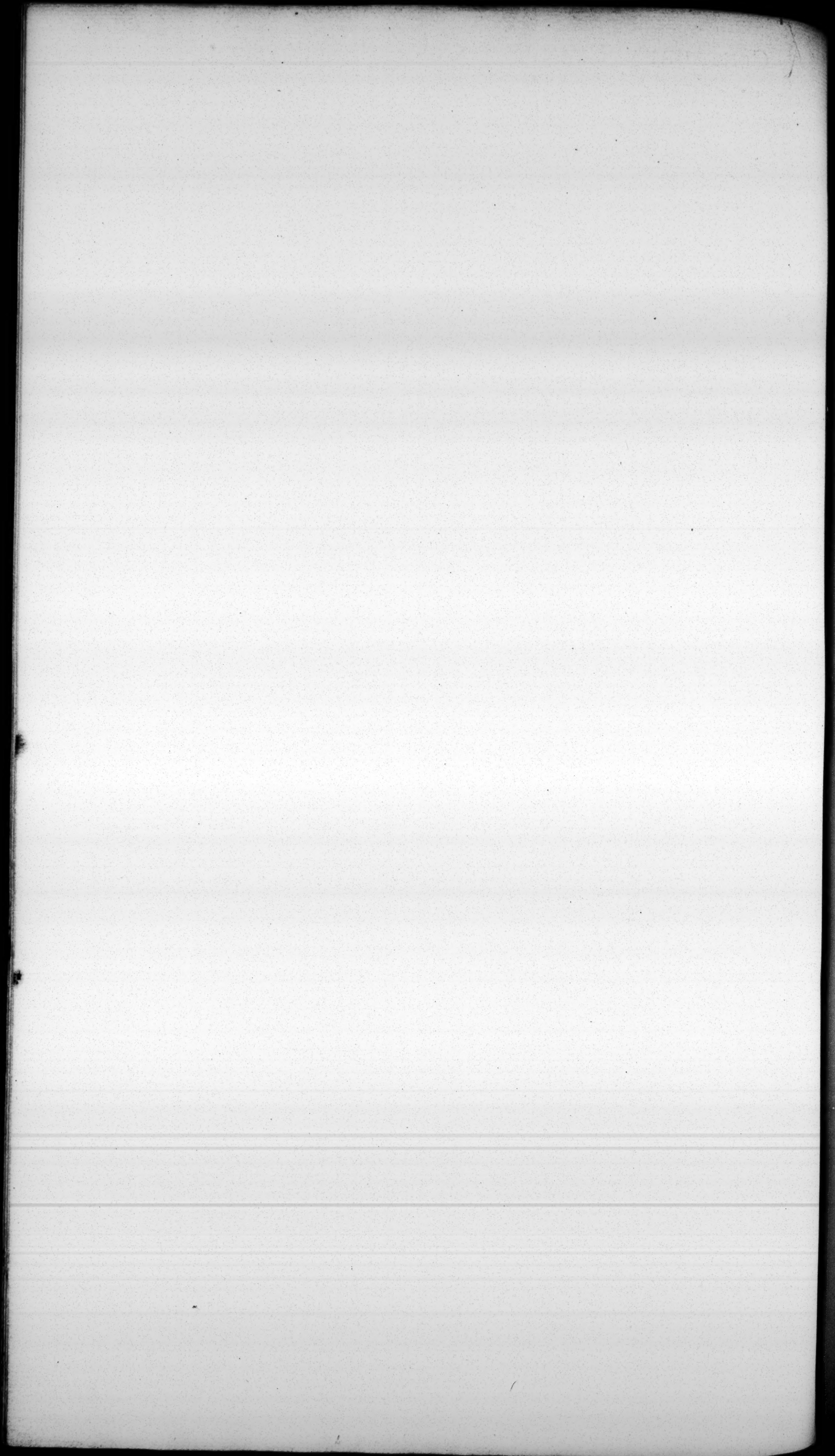
The radical leaves are entire, those which follow usually toothed, sometimes deeply jagged, hence foliis *infimioribus* dentatis, would be more proper than *infimis*.

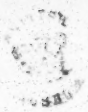
We have represented a seedling plant, as it appears in the Spring; when the plant flowers, it loses in common with many others its radical leaves, and with them part of its specific character.

It grows abundantly in most of our corn-fields, which it enlivens by the brilliancy of its flowers during the months of June and July: the husbandman views it as a pernicious weed requiring his greatest care to eradicate, as it is not only very injurious to his corn, but blunts the sickles used in reaping it, whence its name of *hurt-sickle* found in some old authors.

Though a troublesome weed, agriculturally considered, the beauty of its flowers has recommended it to the garden, in which it is now regularly sown, as an ornamental plant, with other annuals, and appears with a great diversity of colours.

A fine blue for colouring is said to have been extracted from the blossoms of this plant; we should strongly suspect the durability of colour so obtained: the blue used by my artists in colouring its outermost petals is called azure blue, and may be had, by such as find a difficulty in obtaining good colours, of Mr. WILLIAM GRAVES, Newington, Surrey, principal colourer of this work, whose unwearied care to do justice to his employer, has contributed not a little to advance the reputation both of the Flora Londinensis and Botanical Magazine.







Jasione montana.

JASIONE MONTANA. HAIRY SHEEP'S-SCABIOUS.

JASIONE *Lin. Gen. Pl.* SYNGENESIA MONOGAMIA.

Cal. communis 10-phyllus. *Cor.* 5-petala, regularis. *Capp.* infera, bilocularis.

JASIONE *montana.* *Lin. Syst. Vegetab.* p. 666. *Spec. Pl.* p. 1317. *Fl. Succ.* n. 782.

RAPUNCULUS foliis linearibus subasperis, spica planiuscula, petalis liberis. *Haller Hist.* n. 678.

RAPUNCULUS scabiofæ capitulo cæruleo. *Baubin Pin.* 92.

RAPUNTIIUM montanum capitatum leptophyllum. *Col. Ecphr.* 1. p. 226. t. 227.

SCABIOSA globularis quam ovinam vocant *J. B.* III. 12.

SCABIOSA minima hirsuta. *Ger. emac.* 723. *Raii Syn.* p. 275. Hairy Sheep's Scabious, or rather Rampions with Scabious Heads. *Hudson Fl. Angl. ed. 2.* p. 377. *Lightfoot Fl. Scot.* p. 377.

RADIX annua, lignosa, albida, fibrosa.

CAULES plures, suberecti, spithamæi, etiam pedales et ultra, rigiduli, ramosi, hirsuti.

FOLIA plurima, sessilia, lineari-lanceolata, obtusiuscula, undulata, hirsuta.

FLORES capitati, cærulei, summitatibus ramorum infidentes.

CALYX: *Perianthium commune* polyphyllum: foliolis alternis, interioribus angustioribus, includens flores plurimos pedunculis brevissimis adnexos, persistens. *fig. 1.*

Perianthium proprium quinquefidum, superum, persistens.

COROLLA propria pentapetala: *Petalis* lanceolatis, erectis, basi connexis. *fig. 2.*

STAMINA: FILAMENTA quinque, subulata, brevia. ANTHERÆ quinque, oblongæ, basi connexæ. *fig. 3.*

PISTILLUM: GERMEN subrotundum, inferum. STYLUS filiformis, longitudine Corollæ. STIGMA clavatum, purpureum. *fig. 4, 5.*

PERICARPIUM: CAPSULA subrotunda, quinquangularis, coronata calyce proprio, bilocularis.

SEMINA plura, subovata.

ROOT annual, rigid, whitish and fibrous.

STALKS several, nearly upright, about a span in length, but sometimes a foot or more, rather rigid, branched, and beset with short rough hairs.

LEAVES numerous, sessile, between linear and lanceolate, bluntish, waved and hirsute.

FLOWERS of a blue colour, growing in little heads on the tops of the branches.

CALYX: the *Perianthium common to all the florets* composed of many leaves, which are alternate, those of the inner-row narrowest, including numerous flowers sitting on very short footstalks, and permanent. *fig. 1.*

The Perianthium of each floret deeply divided into five segments above the germen, and permanent.

COROLLA: each floret composed of five lanceolate, upright *Petals*, connected at the base. *fig. 2.*

STAMINA: five tapering short FILAMENTS; ANTHERÆ five, oblong, connected at the base. *fig. 3.*

PISTILLUM: GERMEN roundish, below the Corolla. STYLE filiform, the length of the corolla. STIGMA club-shaped and purplish. *fig. 4, 5.*

SEED-VESSEL: a roundish CAPSULE, having five angles with two cavities, and crowned by the calyx proper to it.

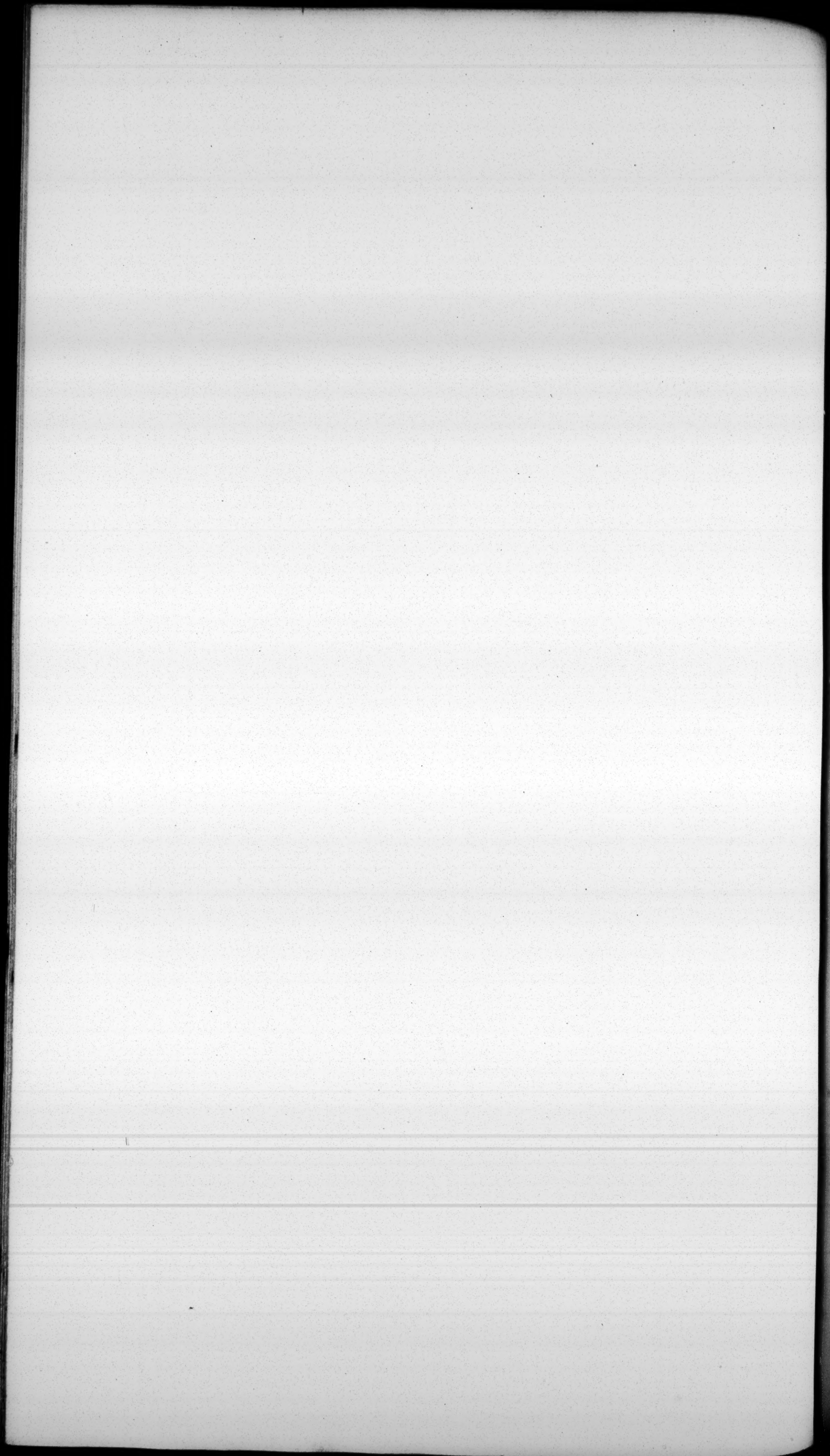
SEEDS numerous, somewhat ovate.

This little plant, which in its general appearance so much resembles a Scabious, is very common on dry, sandy ground, especially about *Coomb Wood*, and *Hampstead*, and most hilly situations near *London*, and elsewhere.

It varies much in size, and is sometimes, though very rarely, found with white blossoms.

It flowers from *June* to *August*.

LINNÆUS remarks, that Bees are particularly fond of its flowers.







Lobelia urens

S. Edwards del. F. Snyden sculp.

LOBELIA URENS. ACRID LOBELIA.

LOBELIA. *Linn. Gen. Pl.* SYNGENESIA MONOGAMIA.

Cal. 5-fidus. *Corolla* 1-petala, irregularis. *Capf.* infera, 2-f. 3-locularis.

LOBELIA *urens* caule erectiusculo foliis inferioribus subrotundis crenatis, superioribus lanceolatis ferratis, floribus racemosis. *Linn. Sp. Pl. ed. 3. p. 1321. Mant. p. 482.*

LOBELIA caule erecto, foliis lanceolatis subdentatis, spica laxa longa terminali. *Loeff. it. 167.*

LOBELIA foliis oblongo-ovatis, floribus laxo spicatis. *Guett. Stamp. 1. p. 35. Dalib. Paris. 268.*

RAPUNCULUS galeatus blesensis f. solonienfis flore violaceo minore. *Morif. Hist. 2. p. 407. f. 5. t. 5. f. 56.*

RAPUNTIIUM *urens* solonienfe. *Morif. blesf. 300. Bocc. fic. 20. t. 11. var. 11. 3. Raii Hist. 746. Monnier Obs. 131.*

DRABA flore cæruleo galeato. *Baub. Prodr. 53. Pin. 110.*

Planta, lactescens, lævis, acris.

RADIX perennis, fibrosa.

CAULIS pedalis ad bipedalem, erectus, ramosus, angulosus.

RAMI adscendentes, tetragoni.

FOLIA alterna, sessilia, subdecurrentia, inferiora oblonga, obtusa, basi angustata, varie dentata, apice sæpe trifida, superiora lanceolata, denticulata.

FLORIS violacei, inodori, numerosi, secundi, racemosi.

RACEMI semipedales, erecti, bracteati.

BRACTEÆ inferiores lanceolatae, denticulatae, apice tricornes, superioris subulatae, omnibus ad lentem scabriusculis.

FLORES plerumque solitarii, pedunculati, pedunculis brevibus, stipula subulata rubro terminata ad basin utrinque.

CALYX: PERIANTHIUM superum, persistens, quinquepartitum, laciniis subulatis, patentibus, suprema cæteris paulo longiore, ad lentem hirsutulis, *fig. 1.*

COROLLA monopetala, ad lentem villosula, tubulosa, tubus calyce duplo longior, superne longitudinaliter divisus; *Limbus* quinquepartitus, bilabiatus; labium inferius tripartitum, laciniis ovato-lanceolatis, acuminatis, dependens, tuberculis duobus albis in fauce notatis, superius bipartitum, laciniis angustioribus, erectis, remotis, paululum recurvis, *fig. 2.*

STAMINA: FILAMENTA quinque, alba, superne connata; ANTHERÆ e fulco-nigricantes, pilis ad margines canescentibus, *fig. 3.*

PISTILLUM: GERMEN inferum, sulcatum; STYLUS filiformis, longitudine staminum, superne paulo crassior; STIGMA obtusum, villosum, *fig. 4.*

The plant milky, smooth, and acrid.

ROOT perennial, fibrous.

STALK from one to two feet high, upright, branched, angular.

BRANCHES ascending, four-cornered.

LEAVES alternate, sessile, somewhat decurrent, the lowermost oblong, obtuse, narrowed at the base, variously indented, often trifid at the point, the uppermost lanceolate, finely toothed.

FLOWER violet-coloured, scentless, numerous, growing to one side in racemi.

RACEMI about six inches in length, upright, furnished with bractæ.

BRACTEÆ, the lowermost lanceolate, finely toothed, terminating at top in three little horns, the uppermost awl-shaped, all of them appearing rough if magnified.

FLOWERS usually single, on peduncles, peduncles short, furnished on each side at the base with an awl-shaped stipula tipped with red.

CALYX: a PERIANTHIUM placed above the germen, continuing, divided into five segments which are subulate and spreading, the uppermost a little longer than the others, slightly hirsute if magnified, *fig. 1.*

COROLLA: monopetalous, slightly villous if magnified, tubular, tube twice the length of the calyx, longitudinally divided above; *Limb* deeply divided into five segments, two-lipped; under lip tripartite, segments ovato-lanceolate, long-pointed, and depending, at the entrance of the throat marked with two white tubercles, upper lip bipartite, segments narrower, upright, remote from each other, and somewhat bent back, *fig. 2.*

STAMINA: five FILAMENTS, of a white colour, united together above; ANTHERÆ of a brownish black colour, with grey hairs on their edges, *fig. 3.*

PISTILLUM: GERMEN below the calyx, grooved; STYLE filiform, the length of the stamina, a little thickened above; STIGMA obtuse and villous, *fig. 4.*

The *Lobelia urens* is one of our native plants which it has fallen to the lot of very few English Botanists to see, either wild or cultivated, its place of growth being altogether local and confined to a part of the island comparatively but little frequented by Botanists; in France and Spain it is more common: for more than twenty years we were anxiously desirous of obtaining this plant; once we had the mortification of travelling in a stage coach close by the spot where it was said to grow: our wishes were at length gratified by the kindness of the Right Hon. Lord WEBB SEYMOUR, who two years since sent us up roots and specimens, accompanied with a letter, which, as it describes minutely its place of growth and other circumstances, we have taken the liberty to add to our account of this plant.

“ Bradley-House,

" Bradley-House, October 18, 1796.

" S I R,

" Before the arrival of this, you will probably have received a box containing some specimens of the *Lobelia*
" *urens*, which I sent from Axminster yesterday morning by the coach. I was disappointed in not finding a
" single plant in flower, having found it last year on the 10th of October in the highest perfection; this
" difference can only be attributed to the forwardness of the last spring, and the backwardness of the preceding
" one. It grows in a poor gravelly soil, on the slope of a heath, called Kilminster-Hill, from the parish in
" which it is situated, and about two miles from Axminster. It is here confined to a spot, not exceeding half
" an acre, close to the road, and about fifty yards from the entrance of the heath, on the right-hand side in
" going from Axminster to Honiton. I have been thus particular in the description of the place, as I searched
" for it in several other parts of the heath (which is extensive) without finding a single plant. It is surrounded
" by *Ulex europæus*, *Erica vulgaris*, *cinerea*, and *tetralix*, *Betonica officinalis*, and *Serratula tinctoria*, all in a
" dwarf state, and thrives best when a few inches of the stem are closely covered by other plants.

" I remain,

S I R,

" Your obedient humble Servant,

" WEBB SEYMOUR."

The roots sent, being planted in pots, grew readily, and flowered the ensuing autumn; from the least luxuriant of those our drawing was made: it will be found more branched than the plants usually are on Kilminster-Hill; but not more so, we presume (if we may judge from figures) than the plant is when found wild in other places.

The name of *urens* has been given to this species from its hot and burning taste, not from any stinging quality: it certainly is a very acrimonious plant: the leaves soon after being chewed, excite considerable heat in the mouth, attended sometimes with sickness: Mr. SYDENHAM EDWARDS, my draughtsman, to whose ingenuity I am under great obligations, and who has acquitted himself so honourably and meritoriously towards me, having handled a branch of this plant broken off from the main stem, and afterwards rubbed his eyes slightly, had a violent pain and temporary inflammation excited in them thereby; which however soon went off, on washing them with cold water.

As a rare plant, and indeed as an ornamental one, this species is deserving of culture; it may be raised without any great difficulty from seeds, or increased by parting its roots, which are perennial, not biennial or annual, as authors have made them.





Viola odorata.

VIOLA ODORATA. SWEET VIOLET.

VIOLA *Linnaei Gen. Pl.* SYNGENESIA MONOGAMIA.

Calyx pentaphyllus. *Corolla* pentapetala, irregularis, postice cornuta. *Capfula* supera, trivalvis, unilocularis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA *odorata* acaulis, foliis cordatis, stolonibus reptantibus, bractæis supra medium pedunculi.

VIOLA *odorata*, acaulis, foliis cordatis, stolonibus reptantibus. *Linn. Syst. Vegetab.* p. 668.

VIOLA acaulis stolonifera, foliis cordatis, *Haller hist. helv. n.* 558

VIOLA *odorata*, *Scopoli Fl. Carniol. n.* 1097.

VIOLA *martia* purpurea flore simplici odore. *Baubin Pin. p.* 199. *martia alba. p.* 199.

VIOLA *nigra* five *purpurea. Ger. emac.* 550.

VIOLA *simplex martia. Parkinson 755. Raii Syn. p.* 364. Purple Sweet Violet, and White Sweet-scented Violet. *Oeder Fl. Dan. icon.* 309.

RADIX perennis, fibrosa, albida, in senescente plantâ basi petiolorum quotannis relicta pars superior radicis tuberculosa evadit, et supra terram eminet; e sinu horum nodorum nascuntur stolones, qui humi repant, et foliis instruuntur stipulisque ejusdem formæ ac illæ quæ ad basin plantæ inveniuntur.

FOLIA subrotundo-cordata, crenata, superne glabra, inferne hirsutula, junioribus involutis.

STIPULÆ radicales, ovato-lanceolatæ, membranaceæ, ferratæ, dentibus glanduliferis.

PEDUNCULI radicales, infra Bractæas quadrangulares, supra Bractæas dorso canaliculati, apice incurvati, uniflori.

BRACTEÆ duæ, lanceolatæ, plerumque oppositæ, appressæ, *supra medium pedunculi.*

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis oblongo-ovatis, obtusis, e viridi purpurascens, *fig. 1.*

COROLLA pentapetala, irregularis, violacea, odorata, petalum infimum Nectario corniculato, obtusiusculo, apice compresso instructum, Petala lateralialia prope basin barbata, *fig. 2.*

STAMINA: FILAMENTA quinque brevissima ægre distinguenda: ANTHERÆ flavescentes, biloculares, vix connexæ, membranâ ovato-acuta aurantiaca terminatæ; e parte posteriori duarum Antherarum exit Nectariumque intrat appendicula viridis, linearis, compressa, *fig. 5, 4, 3.*

PISTILLUM: GERMEN subrotundum; STYLUS basi tenuior et paululum tortuosus; STIGMA uncinatum, Antheris paulo longius, *fig. 6, 7.*

PERICARPIUM priusquam dehiscit, subrotundo-triangulari, purpurascens, villosum; trivalve valvulis subrotundis concavis, *fig. 8.*

SEMINA plurima, rotunda, nitida, straminea, appendiculata, *fig. 9.*

ROOT perennial, fibrous and whitish; in old plants the upper part of the root becomes knobby, and appears above ground, the knots or knobs being formed from the bottoms of the foot-stalks of the leaves which are yearly left; from the bottoms of these knobs spring the stolones or shoots which creep on the ground, and are furnished with leaves and the same kind of Stipulæ which are observable at the bottom of the plant.

LEAVES heart-shaped and somewhat round at the tip, crenated, on the upper side smooth and shining, underneath slightly hairy, when young rolled in at the edges.

STIPULÆ springing from the root, ovato-lanceolate, membranous, ferrated at the edges, each serrature or tooth terminating in a minute gland.

PEDUNCLES springing from the root, below the Bractææ quadrangular, above the Bractææ grooved on the upper side, at top incurvated, supporting one flower.

BRACTEÆ two, lanceolate, generally opposite to each other, pressed to the stalk, and placed above the middle of the Peduncle.

CALYX: a PERIANTHIUM of five leaves, continuing, each leaf of an oblong oval shape, obtuse at the tip, and of a greenish purple colour, *fig. 1.*

COROLLA: of five PETALS, irregular, of a bluish purple colour and sweet smell, the lowermost terminating in a blunt horned NECTARIUM, a little flattened at the extremity, the two side Petals bearded near the base, *fig. 2.*

STAMINA: five FILAMENTS so short as hardly to be distinguished; ANTHERÆ yellowish, bilocular, scarcely connected together, terminated by an oval-pointed, orange-coloured membrane; from the back of two of the Antheræ, springs a slender, flat, greenish appendage, which enters the Nectarium, *fig. 5, 4, 3.*

PISTILLUM: GERMEN roundish; STYLE slenderest at bottom and a little twisted; STIGMA hooked, and a little longer than the Antheræ, *fig. 6, 7.*

SEED-VESSEL, before it bursts, roundish, rather approaching to triangular, of a purplish colour, and villous appearance, splitting into three roundish hollow valves, *fig. 8.*

SEEDS several, round, shining, of a straw colour, terminated by a little appendage, *fig. 9.*

The *Viola odorata* delights to grow under warm hedges, particularly near Woods; if the Spring be favourable, it is generally in full bloom in the month of March, and towards the latter end of Summer ripens its seeds. A variety of this plant frequently occurs with a white flower, not inferior in its agreeable scent to the blue one; and sometimes this plant is found double, in which state it is often introduced into Gardens, and being furnished with abundance of creeping shoots, it is by means of these propagated with the utmost facility.

This species of Violet bears a considerable resemblance to the *Viola hirta*, the mode of distinguishing them we shall point out when we describe the latter.

A syrup made from the flowers is usually kept in the shop, and frequently given to children where a gentle laxative is required: it is likewise in use as a test to try acid and alkaline substances. The

The seeds are said by Authors to possess a diuretic quality, and hence the powder of them has been recommended in the stone and gravel.

The great BACON, who frequently descended from his sublimer studies, and amused himself with enquiries into the qualities and properties of plants, has left us a curious method of preserving the scent of this flower.

"Take Violets, and infuse a good pugil in a quart of Vinegar, let them stand three quarters of an hour, and take them forth, and refresh the infusion with like quantity of Violets seven times; and it will make a Vinegar so fresh of the flower, as if a twelve moneth after it be brought you in a saucer, you shall smell it before it come at you.
"Note. It smelleth more perfectly of the flower a good while after than at the first."

The illustrious prescriber has given no directions concerning the use of this preparation, but it appears to us to be one of the most grateful preservatives against infection, especially if the strongest distilled vinegar which has been drawn over in glafs, be made use of.

The Violet has been much complimented by the antient Poets; and our SHAKESPEARE gives it a conspicuous place in his catalogue of flowers.

"Violets dim,
"But sweeter than the lids of JUNO's eyes,
"Or CYTHEREA's breath."

The Commentators have not been successful in informing us how the "lids of JUNO's eyes" bear any resemblance to "Violets dim," not recollecting that *ιοβλεφαρος* (*having violet eyelids*) was a complimentary title with the Greek poets. This epithet alludes to a well known custom which still prevails in Greece, of colouring the eye lids blue. *A Grecian girl is painted blue round the eyes; and the insides of the sockets, with the edges on which the lashes grow, are tinged with black: For colouring the lashes and socket of the eye, they throw incense or Gum of Labdanum on some coals of fire, intercept the smoke which ascends, with a plate, and collect the foot: This I saw applied; a girl sitting cross-legged, as usual, on a sofa, and closing one of her eyes, took the two lashes between the fore finger and thumb of her left hand, pulling them forward, and then thrusting in, at the external corner, a bodkin which has been immersed in the foot, and extracting it again, the particles before adhering to it remained within, and were presently ranged round the organ, serving as a foil to its lustre, besides contributing, as they say, to its health, and increasing its apparent magnitude." CHANDLER'S *Travels into Greece*.

Altho' the poet of nature has been rather obscure on this subject, where he copies the ancients; he makes ample amends when he gives us the genuine effusions of his own imagination. With what precision and delicacy does he describe the soft enchantment of plaintive music, as resembling the sweetness of this flower; illustrating in a beautiful simile the object of one sense by that of another!

"That strain again;—it had a dying fall;
"Oh! it came o'er my ear, like the sweet south,
"That breathes upon a bank of violets,
"Stealing and giving odour!"

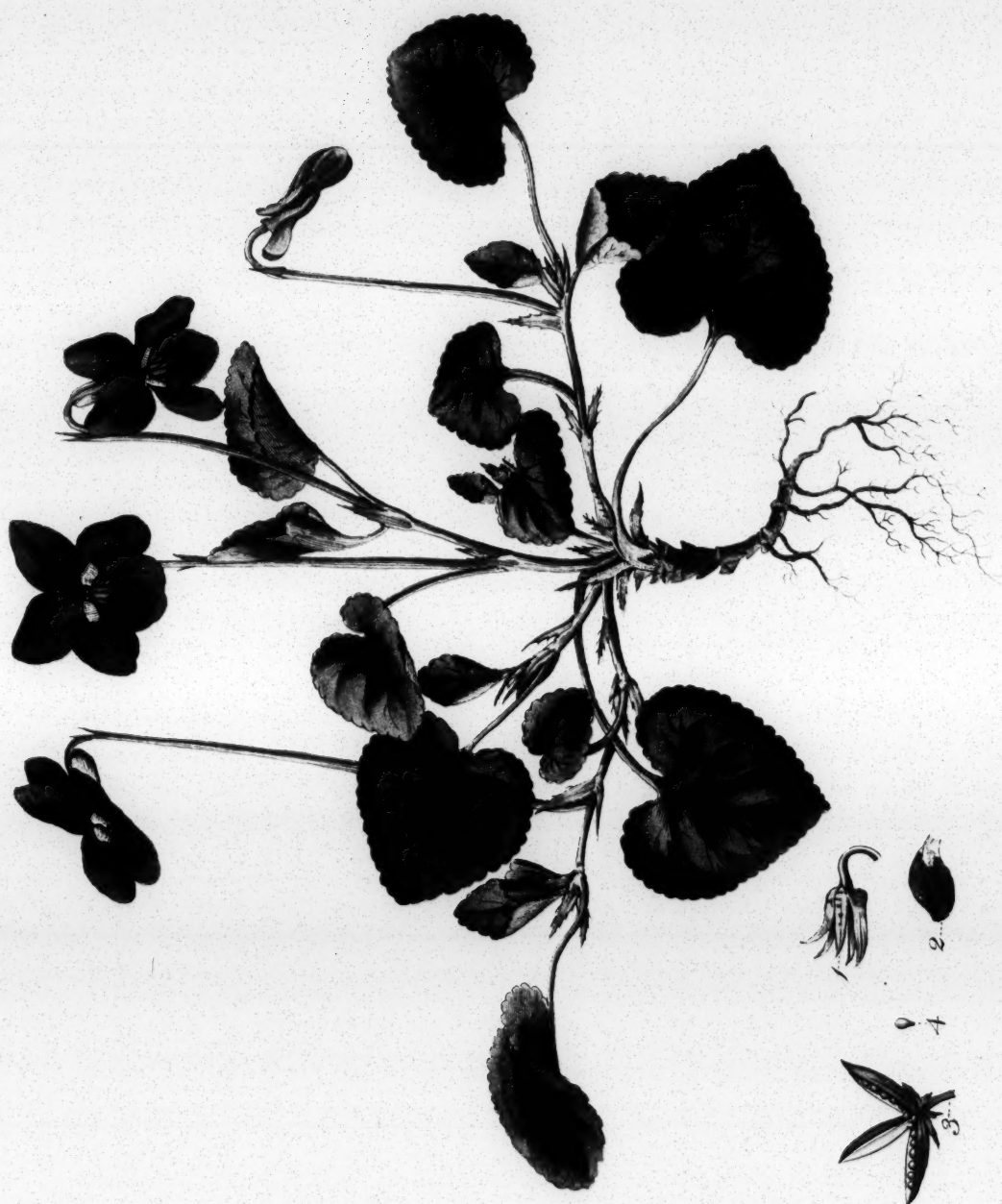
*A Greek poet supposed to be a Christian, from the severity of his manners and purity of his instructions, forbids this custom of painting the eyelids, in the rules of conduct which he addresses to young women,

"Μηδε μελανι τριουσιν υπο βλεφαρισιν οπωπας."

NAUMACHIUS.

It is probable that the Greeks borrowed this fashion from their Asiatic neighbours; JEZEBEL, a native of Zidon, put her eyes in painting, as the translators tell us in the margin of our bible; the Prophets also allude to and censure this custom, see *Jeremiah* iv. 30. *Ezekiel* xxiii. 40.





Viola canina

VIOLA CANINA. DOGS VIOLET.

VIOLA *Linnaei* Gen. Pl. SYNGENESIA MONOGAMIA.

Calyx pentaphyllus. *Corolla* pentapetala, irregularis, postice cornuta. *Capsula* supera, trivalvis, unilocularis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA *canina*, caule adultiore adscendente, foliis oblongo-cordatis. *Linnaei Syst. Vegetab.* p. 668.

VIOLA caule procumbente, ramofo, foliis petiolatis cordatis. *Haller hist. helv. n.* 563.

VIOLA *canina*. *Scopoli Fl. Carniol. n.* 1098.

VIOLA *martia* inodora sylvestris. *Baubin. pin. p.* 364.

VIOLA *canina* sylvestris. *Ger. emac.* 851.

VIOLA sylvestris. *Parkinson* 755. *Raii Syn. p.* 364, Wild or Dogs Violet. Viola *canina* minor,

Raii Syn. 364. t. 24. fig. 1. *Hudson Fl. Angl. p.* 331.

RADIX perennis, crassitie pennæ coracis, obliqua, fibras longiusculas, tenaces dimittens, superne subdentatus ex reliquiis petiolorum.

CAULIS suberectus, triuncialis, subangulosus, lævis, folia floresque ferens.

FOLIA cordata, lævia, crenata, subtus sæpe purpurascencia, superiora oblongo cordata.

STIPULÆ caulinae lanceolatae, pilis rigidiusculis ciliatae.

PEDUNCULUS tetragonus, bracteis duabus setaceis instructus.

FLOS purpureus, inodorus, majusculus.

CALYX: PERIANTHIUM pentaphyllum, foliolis lanceolatis, acuminatis, nervosis, basi dentatis; tribus superioribus superne tuberculosis, apicibus recurvatis, duobus inferioribus longioribus, fig. 1.

COROLLA, ut ut Stamina cum Pistillo, a duabus speciebus jam descriptis (vid. odorata et hirta) vix discrepant, petala lateralia basi barbata sunt, fig. 2, petalumque inferius ad basin lineis saturate purpureis pingitur.

CAPSULA oblonga, trigona, trivalvis, valvulis cymbiformibus, fig. 3.

SEMINA plurima, glabra, pallida, flavescentia, in singula valvula, 7, 9, fig. 4.

ROOT perennial, about the thickness of a crow quill, oblique, sending down some longish fibres of a toughish substance, on the upper part somewhat toothed or knobbed, from the remains of the leaf stalks.

STALK nearly upright, about three inches high, somewhat angular, smooth, bearing both leaves and flowers.

LEAVES heart-shaped, smooth, crenated, and oftentimes purplish underneath; the upper leaves of a longer shape.

STIPULÆ of the stalk lanceolate, and edged with stiffish hairs.

FLOWER-STALK square, furnished with two narrow pointed floral-leaves.

FLOWERS purple, scentless, and rather large.

CALYX: a PERIANTHIUM of five leaves, which are lanceolate, pointed, rib'd, and indented at the base; the three uppermost a little uneven on their upper surface, the points bending upward; the two lowermost longer, fig. 1.

COROLLA, as well as the Stamina and Pistillum, differ very little from the two species already described, (viz. the sweet-scented and hairy) having the lateral petals, bearded at the base, fig. 2; and the base of the lowermost petal, painted with deep purple lines.

CAPSULE oblong, three cornered, having three valves, which are boat-shaped, fig. 3.

SEEDS numerous, smooth, of a pale yellowish colour, in each valve 7 or 9, fig. 4.

THE Dog Violet differs from the Sweet Violet in many particulars; the chief of which are,

First, The flowers have no smell.

Second, The flowers grow on foot-stalks which spring from the stalk, and not the root, and are in general of a larger size.

Third, The stipulae, next the root and on the stalk, are very strongly edged with stiff hairs.

Fourth, The segments, or leaves of the calyx, are pointed.

Fifth, The seed-vessel is oblong and three corner'd.

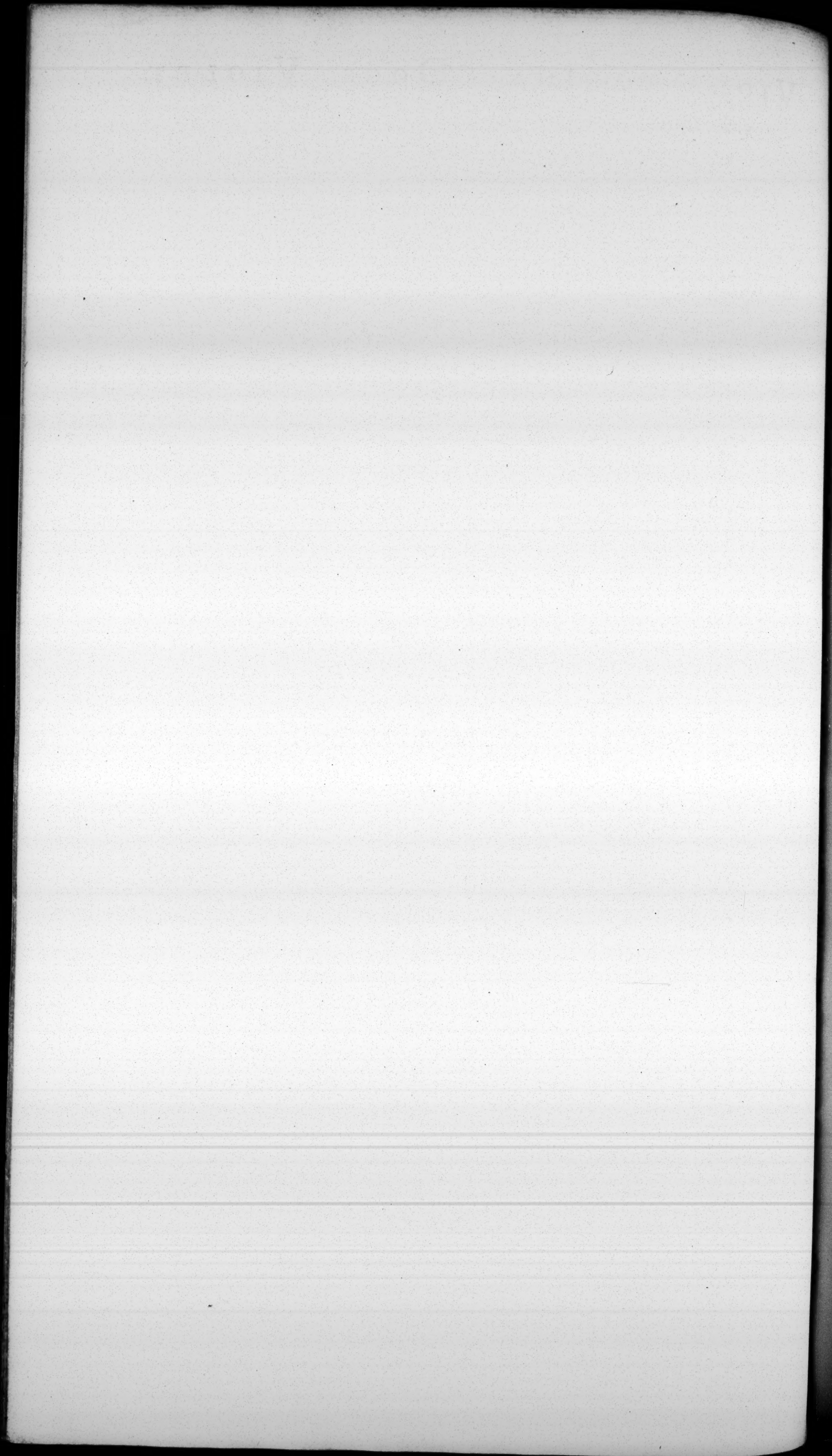
It differs from the hairy Violet also, in all these respects except the first.

The same peculiar circumstance of producing seed during the summer months, without any expanded corolla, takes place also in this species.

It grows with us in greater abundance than either the Viola odorata or hirta, in our woods, and under hedges; and begins to flower in April, when both the others are going out of bloom.

It varies in colour, being sometimes found with white blossoms; in size also, according to the exposed or sheltered situation in which it grows, it differs very much: and there is little doubt, but the Violet represented in RAY's Synopsis, pl. 24, fig. 1, is the Viola Canina in its small state, though the figure be imperfect as to its characters.

HALLER observes, that those who collect Violet blossoms for making the syrup, are apt to substitute this species: but this cannot often happen: should these flowers alone be exposed for sale, they may be detected by their want of smell; should they be mixed with a few of the sweet ones, they may be discovered by the pointed shape of the leaves of the calyx.







Viola hirta.

VIOLA HIRTA. HAIRY VIOLET.

VIOLA *Linnei Gen. Pl.* SYNGENESIA MONOGAMIA.

Calyx pentaphyllus. *Corolla* pentapetala, irregularis, postice cornuta. *Capsula* supra, trivalvis, unilocularis.

Raii Synop. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA *hirta* acaulis, foliis petiolisque hirsutis, bracteis infra medium pedunculi.

VIOLA *hirta* acaulis, foliis cordatis piloso hispidis. *Linn. Syst. Vegetab.* p. 668.

VIOLA acaulis, foliis cordatis hispidis. *Haller hist. helv. n.* 559.

VIOLA *hirta* *Hudson Fl. Angl.* p. 330.

VIOLA *martia* major hirsuta inodora. *Hist. ox. II.* 475.

VIOLA *trachelii* folio vulgo. *Raii hist.* 1051. *Syn.* p. 365. Violet with Throat-wort leaves.

So great is the similarity betwixt this Species and the *Viola odorata*, that to describe it in the same manner as I have that plant, would be to repeat nearly the same words. To avoid this sameness of expression, I shall adopt a description in the way of contrast, which will enable me to point out the differences of each in a manner more striking, and I hope equally satisfactory to my botanic readers.

I would first premise, that as it is my greatest wish to clear up every difficulty respecting the species and varieties of those plants which come properly before me, so I have with that view, not only examined this plant with the greatest attention, where it has grown wild, but also cultivated it in my garden along with the *odorata*, and hence, seeing and noticing its mode of growth throughout the year, have perhaps been able to obtain a clearer idea of its history, than those who may have viewed it at one particular season only.

The *Viola odorata* throws out from the upper part of its root a number of stolones or shoots, which trail on the ground, and quickly take root at the joints, whereby it propagates itself very fast: the *hirta* likewise encreases itself by throwing out young stalks; but then they are not procumbent, nor do they ever strike root as those of the *odorata* do; hence the *hirta* does not encrease so fast, nor spread so wide. Although LINNÆUS makes a considerable difference in the form of the roots of these plants, yet from what I have observed, this difference proceeds chiefly from the age of the roots; for in both species, the older they are, the more full are they of tubercles or cicatrices, formed by the annual shedding of the leaves.

The radical *Stipule* are lanceolate and serrated in both species.

The *footstalks* of the leaves form perhaps the most obvious difference; in the *odorata* they are nearly smooth; in the *hirta* they are very hirsute, and this hairiness puts on a kind of silvery appearance in the young plants of this species, where it is remarkably conspicuous.

In the leaves themselves the difference is for the most part, not very remarkable, for in both species they are somewhat hirsute underneath; those of the *hirta* however, are sometimes remarkably so, from growing in particular soils or situations: the leaves of the *odorata* have a more glossy appearance on their upper surface, but this scarce discriminates them unless they are contrasted. With respect to shape and size likewise, the difference is not very obvious; both species when in bloom are small, compared with the size to which they afterwards grow. In make they are somewhat longer, and not so perfectly heart-shaped.

In the specimens of this plant which I have examined, I could not perceive that sensible difference which LINNÆUS notices (*vid. Mantiss. Plant. alt. p.* 483.) in the shape of the *Peduncle* above the *Bractæ*; in both species they certainly are channeled at the back: in the situation of the *Bractæ*, however, there is a very considerable difference, which does not appear to have been taken notice of, and this seemed to me to be so obvious a character, that I trust it will apologize for my altering its specific description: in the *odorata*, the *Bractæ* are placed above the middle of the *Scapus*, or *Peduncle*; in the *hirta*, they are situate below it: but there is one caution necessary to be observed respecting this character, viz. that the *Bractæ* of each be observed, just when the flowers are fully expanded, for as that part of the *Scapus*, which is situated above the *Bractæ*, grows considerably longer by the time that the flowers of the *odorata* are faded, so they should both be examined when of an equal age, otherwise this distinction will not appear so remarkable.

The flowers of the *hirta*, in general, appear about a week later than those of the *odorata*, are of a paler blue colour, and entirely want that sweet fragrance which renders the *odorata* so grateful a harbinger of the Spring. In the other parts of the fructification, these plants are very similar to each other; but there is one circumstance respecting the manner in which they produce and disperse their seeds, which may not be generally known.

LINNÆUS in his *Flora Suecica*, n. 789, observes that the flowers which the *Viola mirabilis* first produces from the root, are furnished with Petals, yet that these for the most part are barren, while those which blow later the same Spring, and rise from the stalk, although destitute of Petals, produce perfect seed: and JACQUIN, in his excellent work the *Flora Austriaca*, where this plant is figured, (*Vol. I. pl.* 19.) confirms the truth of LINNÆUS's observations, and says that the barrenness of those flowers appeared to arise from a deficiency of the *Stylus*. LINNÆUS in his valuable treatise above quoted, observes likewise, that the flowers of the *Viola montana*, which appear first, are furnished with Petals, but that those which are afterwards produced have no Petals, yet nevertheless are fertile; and this I find, on repeated examination, to be the case with the *Viola odorata* and *hirta*, but more particularly the latter: they differ from the *Viola mirabilis* in this respect, that all the flowers which are formed, both with and without Petals, produce perfect seed. I was led to this discovery from observing a single plant of the *Viola hirta*, to produce about the middle of Summer, ten or twelve capsules of ripe seeds, on which I was certain in the Spring no more than two or three blossoms had appeared: the next Spring I discovered, that besides those perfect blossoms which first spring up, this plant continues for a month or more to throw out new flowers, which are entirely destitute of Petals, or have only the rudiments of them which never appear beyond the *Calyx*; but all the other parts of the fructification are perfect. The capsules in both these species, when they become nearly ripe, lay close to the ground, so that when they burst, the seeds have an easy access into the earth.

There is some difference with respect to the soil and situation in which these two plants delight; the *odorata* grows very generally under warm hedges, and in woods; the other appears to be pretty much confined to a chalky soil, and often occurs in more exposed situations, in the fields and on the banks about *Chastillon*, it may be found in tolerable abundance.





VIOLA PALUSTRIS. Bog VIOLET.

VIOLA *Lin. Gen. Pl.* SYNGENESIA MONOGAMIA.

Cal. 5-phyllus. *Cor.* 5-petala, irregularis, postice cornuta. *Caps.* supera 3-valvis, 1-ocularis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA acaulis, foliis reniformibus. *Lin. Syst. Vegetab.* p. 668. *Sp. Pl.* p. 1324. *Fl. Suecic.* n. 786. *Haller. hist.* n. 560.

VIOLA palustris rotundifolia glabra. *Moris. hist.* 2. p. 475. *f.* 5. *t.* 35. *f.* 5. *Plot. Ox.* 144. *t.* 9. *f.* 2. *Raii Syn.* p. 364.

Hudson Fl. Angl. ed. 2. p. 379.

Lightfoot Fl. Scot. p. 506.

Oeder Fl. Dan. t. 83.

RADIX perennis, repens, albida, dentata, hinc inde gemmis albis instructa, plurimis fibrillis ramosis capillata.

STIPULÆ radicales plurimæ, ovato-acutæ, ferrulatæ.

PETIOLI glabri, semicylindracei, interne concavi, ad lentem visi punctis minutissimis purpureis notati.

FOLIA subreniformia, tenera, nitida, crenata, venosa, subtus haud infrequenter purpurascens.

PEDUNCULI radicales, uniflori, petiolis duplo longiores, subtetragoni.

BRACTEÆ duo, lanceolatæ, oppositæ, ad basin ferrulatæ, infra medium pedunculi positæ.

FLORES parvi, pallide purpurei.

CALYX: PERIANTHIUM parvum, petalis duobus superioribus fere occultum, pentaphyllum, foliolis oblongis, obtusis, superioribus apice recurvis. *fig.* 1.

COROLLA: PETALA quinque, pallide purpurea, duobus superioribus deorsum flexis, longitudine fere calcaris nectarii, petala lateralia subtor-tuosa, stria unica simplici notata, basi barbata, *fig.* 2. infima venis purpureis ramosis pulchre picta, in calcar breve obtusum postice excur-rente. *fig.* 3.

STAMINA: FILAMENTA quinque brevissima; ANTHERÆ biloculares, in tubum vix coalescentes, membrana aurantiaca terminatæ. *fig.* 4. *aut.*

PISTILLUM: GERMEN subovatum; STYLUS basi curvatus, superne incrassatus, antheris longior; STIGMA nudo oculo bifidum apparet; *fig.* 5. armato sicut ad. *fig.* 6.

PERICARPIUM: CAPSULA oblonga, trigona, tri-valvis.

SEMINA plurima, subrotunda.

ROOT perennial, creeping, whitish, toothed, here and there furnished with white buds, and abundantly supplied with branched fibres.

STIPULÆ next the root numerous, ovate, pointed, and slightly sawed.

LEAF-STALKS smooth, semicylindrical, internally hollow, view'd with a glass appearing to be finely dotted with purple.

LEAVES somewhat kidney-shaped, tender, shining, notched, veiny, on the under side frequently purplish.

FLOWER-STALKS springing from the root, twice the length of the leaf-stalks, somewhat quadrangular

FLORAL-LEAVES two, lanceolate, opposite, finely sawed at the base, and placed below the middle of the flower-stalk.

FLOWERS small, of a pale purple colour.

CALYX: a PERIANTHIUM, small and almost hid by the two uppermost petals, composed of five leaves, which are oblong, obtuse, the uppermost turn'd back at top. *fig.* 1.

COROLLA five PETALS, of a pale purple colour, the two uppermost bent back, almost the length of the spur of the nectary, the side petals somewhat twisted, marked with one simple streak, and bearded at the bottom, the lowermost beautifully painted with branched veins of a purple or reddish colour, running out backward into a short blunt spur. *fig.* 2. 3.

STAMINA: five FILAMENTS very short, ANTHERÆ bilocular, scarcely united in a tube, terminated by an orange colour'd membrane. *fig.* 4. magnified.

PISTILLUM: GERMEN somewhat ovate; STYLE crooked at bottom, thicken'd at top, longer than the antheræ; STIGMA to the naked eye bifid. *fig.* 4. when magnified appearing as at *fig.* 6.

SEED-VESSEL an oblong, three-corner'd CAPSULE of three valves.

SEEDS numerous and roundish.

IT is in Bogs only that we find the *Viola palustris*, the least showy of all our English Violets, and in such situations it generally abounds, on the boggy part of *Shirley Common* near *Croydon*, it may be found in flower in April and May.

It is distinguished from the other species by the peculiarity of its place of growth, the greater roundness of its leaves, the paleness of its flowers, and the extraordinary form of its stigma, *vid. pl. fig.* 6. In its œconomy it resembles the *Viola odorata*, *hirta*, &c. producing ripe seeds without perfect blossoms, and that in a greater quantity and for a longer continuance than any of the others.

A Violet with red striped blossoms is mentioned by *PARKINSON*, under the name of *Viola rubra striata Eboracensis* which is considered by *Mr. RAY* and later writers, as only a variety of the present plant.





Viola tricolor.

VIOLA TRICOLOR. WILD PANSIE.

VIOLA *Linnaei Gen. Pl.* SYNGENESIA MONOGAMIA.

Raii Synop. Gen. 20. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA tricolor, caule triquetro diffuso, foliis oblongis incis, stipulis pinnatifidis. *Linn. Syst. Vegetab. p. 668. Fl. Suecic. 307.*

VIOLA caule diffuso, ramoso, foliis ovatis dentatis, flore calyce paulo majori. *Haller. hist. tom. 1. n. 569.*

VIOLA bicolor arvensis. *C. Bauhin. pin. 200.*

VIOLA tricolor sylvestris. *Parkinson. 755.*

JACEA bicolor frugum et hortorum vitium. *I. Bauhin. III. 548. Raii Syn. p. 336. 11. Hudson. Fl. Angl. p. 331. Scopoli. Fl. Carniol. p. 183.*

RADIX simplex, fibrosa.

CAULIS palmaris et ultra, plerumque diffusus, ramosus, angulosus, ad basin fordide purpureus; rami alterni.

FOLIA longe petiolata, elliptica, crenata, inferioribus saepe minoribus, subrotundis, superioribus angustis, subdentatis.

STIPULÆ ad basin laciniato-pinnatifidæ, laciniis linearibus, extrema oblonga, dentata.

PEDUNCULI subquadrangulares, alterni, apice incurvati, dorso canaliculati, stipulis duobus parvis, membranaceis, prope florem, instructi.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis acutis, tria superiora minora, ad basin æqualia, suprema erecta, petalis supremis longiora, duo inferiora apice et basi cæteris longiora, basique latiora, petalis infimis breviora, fig. 2.

COROLLA pentapetala, irregularis, duo superiora subrotunda, integerrima, albida, deorsum spectantia; lateralium lamina ovata, obtusa, ad basin barbata, lineaque brevi purpurea notata; infimum latumemarginatum, ad basin flavum, lineis quinque purpureis pictum, CALCARE SEU NECTARIO

NECTARIUM. terminatum, longitudine calycis, apice violaceo, obtuso, fig. 3, 4, 5, 6.

STAMINA: FILAMENTA quinque, brevissima; ANTHERÆ albidæ, vix coadunatæ, biloculares, membranâ crocæ terminatæ, e dubous inferioribus exeunt, nectariumque intrans, appendiculæ duæ lineares, fig. 7, 8, 9, 10.

PISTILLUM: GERMEN subconicum, fig. 11; STYLUS ad basin tortuosus, staminibus longior, fig. 12; STIGMA capitatum, oblique perforatum, persistens, fig. 13.

PERICARPIUM: CAPSULA ovata, glabra, unilocularis, trivalvis, fig. 14, 15.

SEMINA plurima, ovata, fusca, nitida, appendiculata, valvis seriatim affixa, fig. 15.

ROOT simple and fibrous.

STALK about four or six inches high, generally spreading, branched, angular, at bottom of a dull purple colour; the branches alternate.

LEAVES placed on long foot-stalks, elliptical, crenated, the lowermost often smaller and roundish, the uppermost narrow and slightly indented.

STIPULÆ at bottom jagged and pinnatifid, the lacinae or jags linear, that which terminates the Stipula oblong and indented.

FOOT-STALKS of the flowers, nearly quadrangular, alternate, bent in at top, channeled on the back, and furnished with two small membranous Stipulæ near the flower.

CALYX: a PERIANTHIUM of five leaves and continuing, the leaves sharply pointed, the three upper ones smallest, and equal at bottom, the uppermost upright and longer than the uppermost petals, the two under leaves longer both at bottom and top than the rest, and at bottom likewise broader, shorter than the lowermost petals, fig. 2.

COROLLA pentapetalous and irregular, the two uppermost petals roundish, entire, and reflected; the lamina or broad part of the side petals oval, obtuse, bearded at bottom, and marked with a short purple line; the lowermost petal broad, emarginate, yellow at bottom, and streaked with five purple lines, and terminated by a

NECTARY. SPUR or NECTARY the length of the Calyx, with a blueish and blunt point, fig. 3, 4, 5, 6.

STAMINA: five FILAMENTS very short; ANTHERÆ whitish, scarcely united, bilocular, terminated by a saffron coloured membrane; from the two lowermost two linear appendages go off and enter the Nectary, fig. 7, 8, 9, 10.

PISTILLUM: GERMEN somewhat conical, fig. 11; STYLE twisted at bottom and longer than the Stamina, fig. 12; STIGMA forming a little head, obliquely perforated and continuing, fig. 13.

SEED-VESSEL: an oval smooth CAPSULE of one cavity and three valves, fig. 14, 15.

SEEDS numerous, oval, brown and shining, with a button to each, affixed in rows to the inside of the valves, fig. 15.

Few plants have acquired a greater variety of names than the *Viola Tricolor*; in different Authors and different counties we find the following, viz. *Wild Pansie, Herb Trinity, Hearts ease, Three faces under a hood, Cull me to you, Love in Idleness, &c.* what has occasioned some of these is the different appearance it puts on from cultivation and change of soil; in a garden there are few flowers that can boast a greater variety or richness of colour, few that continue longer in blossom, or are cultivated with more ease; it is probable that the large yellow Violet, *Viola lutea*, is no more than a variety of this species.

The Pansie in its wild state occurs very frequently in cultivated fields, and blossoms through most of the summer months. It is so hardy as to appear in Lapland amongst the few other plants which ornament the wastes of that Country during its short summer. It is eaten by Kine and Goats.

The difference in the form of the Stigma seems to divide the plants of this Genus into two families, viz. *Pansies* and *Violets*, in the former the Stigma is round, with a remarkable hole on one side of it, in the latter it is hooked.

Linnaeus remarks the black lines which sometimes appear on the Petals, MILTON had observed the same, "*Pansies freakt with Jet*" In a poor soil the purple and yellow in the bloom of this flower frequently become very faint, and sometimes fade into a perfect white, this variation in colour gives a propriety to the Metamorphosis of this flower in which SHAKESPEAR pays an elegant compliment to his royal mistress.

That very time I saw, (but thou could'st not)
Flying between the cold Moon and the Earth,
Cupid all-arm'd: a certain aim he took,
At a fair Vestal, throned by the west,
And loos'd his love-shaft smartly from his bow,
As it should pierce a hundred thousand hearts:
But I might see young Cupid's fiery shaft
Quench'd in the chaste beams of the watery moon,
And the imperial votress passed on,
In maiden meditation fancy-free.
Yet mark'd I where the bolt of Cupid fell,
It fell upon a little western flower;
Before, milk-white; now purple with Love's wound,
And Maidens call it Love in Idleness.





Orchis Morio

Sanson Sculp

ORCHIS MORIO. MEADOW ORCHIS.

ORCHIS *Linn. Gen. Pl.* GYNANDRIA DIANDRIA. *Nectarium* corniforme pone florem.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

ORCHIS *Morio* bulbis indivisis, nectarii labio quadrifido crenulato: cornu obtuso adscendente, petalis obtusis conniventibus. *Lin. Syst. Vegetab.* p. 674. *Sp. Pl.* p. 1333. *Fl. Suec.* n. 794.

ORCHIS radicibus subrotundis, petalis galeæ lineatis, labello trifido crenato, medio segmento emarginato. *Haller. hist. n.* 1281. t. 33.

ORCHIS *Morio*. *Scopoli Fl. Carniol.* n. 1110.

ORCHIS morio femina. *Baubin. pin.* 82. *Parkins.* 1347.

CYNOSORCHIS morio femina. *Ger. emac.* 208. *Raii Syn.* 377. The Female Fool-stones.

Hudson, Fl. Angl. ed. 2. p. 383. *Lightfoot Fl. Scot.* p. 514. *Oeder. Fl. Dan. Tab.* 253

RADIX: *Bulbi* duo, subrotundi, magnitudine nucis avellanæ aut etiam moschata, superne ut in plerisque hujus generis fibris majusculis patentibus instructi, odore subhircino.

SCAPUS spithameus, ad pedalem et ultra, erectus, foliosus.

FOLIA amplexicaulia, lanceolata, lineata, superne nitida, inferne subargentea, ima reflexa, et quodammodo intorta.

FLORES pauciores, sex five octo, raro ultra duodecim, purpurei, laxè dispositi.

BRACTÆA longitudine fere germinis, purpurascens, incumbens.

COROLLA: PETALA quinque, omnibus in galeam conniventibus, quorum duo exteriora præsertim lineis quinque parallelis, viridibus notantur.

LABELLUM amplum, purpureum, medio albidum, punctatum, trilobum, lobis lateralibus deflexis, medio breviorè emarginato, omnibus ferrulatis. *Calcar* longitudine fere germinis, submarginatum, sursum tendens.

STAMINA: FILAMENTA duo; ANTHERÆ virides, clavata, bilamellata. *fig. 2. 3. 5.*

ROOT: two roundish *Bulbs* of the size of a hazel nut or even of a nutmeg, above as in most of the plants of this tribe furnished with largish spreading fibres, smelling strong and rank.

STALK from six or seven inches to a foot or more in height, upright and leafy.

LEAVES embracing the stalk, lanceolate, marked with lines, shining on the upper side, underneath silvery, the bottom ones for the most part turning back and variously contorted.

FLOWERS few in number, from six to eight, seldom more than twelve, of a purple colour, sitting loosely on the stalk.

BRACTÆA or Floral leaf, almost the length of the germen, purplish and incumbent.

COROLLA: five PETALS, all of which close together and form the helmet, of these the two outermost are strikingly marked with green parallel lines.

LIP large, purple, whitish in the middle and dotted, having three lobes, of which the two side ones turn downward, the middle one shortest with a notch in it, all of them finely fawed. *Spur* nearly the length of the germen, slightly notched at top and tending upward.

STAMINA: two FILAMENTS; ANTHERÆ green, club-shaped, splitting into two lamellæ. *fig. 2. 3. 5.*

Most of the plants of the Orchis tribe as already has been observed have bulbous roots which are yearly renewed, they do not however encrease in that abundant manner which many other bulbous-rooted plants are known to do; as yet I have not heard of any one that has raised them from seed, nor can I boast a fact of that kind myself, yet frequent observation almost confirms me in the opinion that they must be propagated from seed, if this be not admitted, how shall we account for so many young plants being found together as are frequently observed? I have myself seen from twenty to thirty young plants of the Bee Orchis growing within a foot of each other, and it is well-known they seldom or never encrease by the root; accurate and repeated observation in natural history is capable of producing much information, and will it is hoped ere long satisfactorily elucidate this doubtful subject.

Some writers on the Materia Medica have pronounc'd this to be the true plant which produces the oriental Salep, while others suppose it to be some other species, there is one circumstance which makes it impossible that this species should produce all the Salep as many of the roots in that drug appear palmated like those of the *Orchis Maculata*, whereas had they been the produce of the *Orchis Morio* they would all have appeared round, it would therefore appear most probable that the Salep is formed from a number of the different species mixed together; there seems to be no propriety in confining it to this species alone, the *mascula*, the *maculata*, the *bifolia*, and some others have as large or larger roots than this, and their quality appears to be the same.

The *Orchis Morio* grows in meadows that are moderately dry, such as the Cowslip is usually found in, and sometimes they are so numerous as to empurple the spot they grow on.

It assumes all the changes of colour from a deep purple to a white, indeed there is no Orchis more variable in this respect, but in all its varieties it retains more or less strongly the green lines on its side petals which obviously distinguish it from all our other Orchis's.

It flowers in May and June.







Cereus masculus

ORCHIS MASCULA. EARLY SPOTTED ORCHIS.

ORCHIS *Linnaei Gen. Pl. GYNANDRIA DIANDRIA.*

Nectarium corniforme pone florem.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

ORCHIS *mascula* bulbis indivisis, nectarii labio quadrilobo crenulato: cornu obtuso petalis dorsalibus reflexis. *Lin. Syst. Vegetab. p. 674. Fl. Suecic. p. 319. n. 795.*

ORCHIS radicibus subrotundis; petalis lateralibus reflexis; labello trifido; segmento medio longiori, bifido. *Haller hist. n. 1283. tab. 33.*

ORCHIS *mascula. Scopoli Fl. Carniol. n. 1111.*

ORCHIS morio mas foliis maculatis. *Baubin. pin. 81. Parkinson. 1346.*

CYNOSORCHIS morio mas. *Gerard. emac. 208. Raii Syn. p. 376. n. 3, The Male Fool-stones. Hudson. Fl. Angl. p. 333. Oeder. Fl. Dan. t. 457. Lightfoot. Fl. Scot. p. 515.*

RADIX Bulbi duo subrotundi, majusculi.

CAULIS pedalis, erectus, teres, solidus, superne purpureus, nudus, inferne foliis vaginantibus vestitus.

FOLIA latiuscula, maculis atropurpureis plerumque insignita, inferne carinata.

SPICA longa, speciosa, laxa.

BRACTEÆ purpureæ, lanceolatæ, submembranaceæ, germine paulo breviores, apicibus paululum contortis.

COROLLA: PETALA quinque purpurea; duo ovato-acuta, erecta, carinata, apicibus incurvatis, tria conniventia in galeam: LABELLUM amplum, trilobum, medio productiore, omnibus acute crenulatis, et basi maculatis: FAUX alba.

EXPLIC. FIG.

- Fig. — 1, Bractæa.
2, 3, Petala.
4, Labellum.
5, Nectarium, nat. magnit.
6, Glandula ad basin Filamenti.
7, Filamentum.
8, Anthera.
9, Receptaculum glandularum Filamentorum.
10, Theca Antherarum clausa.
11, Eadem aperta.
12, Anthera extensa.
13, Stigma.
14, Germen, auct.

ROOT: two Bulbs of a roundish form, and somewhat large.

STALK a foot high, upright, round, solid, above naked and purplish, below clothed with surrounding leaves.

LEAVES broadish, most commonly marked with dark purple spots, the midrib projecting sharply on the under side.

SPIKE long, showy, loose.

FLORAR-LEAVES purple, lanceolate, somewhat membranous, a little shorter than the Germen, the tips a little twisted.

COROLLA: five purple PETALS, two of which are of an oval pointed shape, upright, with a projecting rib, the tips bending inward; the remaining three form the galea or helmet: the LIP large, with three lobes, of which the middle one is the longest, all of them sharply notched, and spotted at the base: MOUTH white.

EXPLANATION of the FIGURES.

- Fig. — 1, The Floral-leaf.
2, 3, The Petals.
4, The Lip.
5, The Nectary of their natural size.
6, The Gland at the base of the Filament.
7, The Filament.
8, The Anthera.
9, The Cavity containing the Glands of the Filaments.
10, The case containing the Antheræ closed.
11, The same opened.
12, The Anthera stretched out.
13, The Stigma.
14, The Germen, magnified.

STUDENTS in general, find a difficulty in obtaining a clear idea of the parts of fructification in the *Orchis* tribe. There is a peculiarity of structure runs through the whole of them, very different from what we meet with in plants in general.

The greater part of this genus have bulbous roots, which are yearly renewed; some have fibrous roots, which also partake of the same nature. As a proof of their being yearly renewed, we always find, when there are two bulbs, that one of them is in a more withered state than the other; and if we take the roots up in Autumn, we find one bulb only.

These plants multiply themselves very little. The small increase they make, appears to be from off-sets. Hitherto we have no satisfactory proof of their being propagated from seed; yet the seed-vessels in many of them, are large, well formed, and filled with seeds; which though extremely minute, appear perfect.

The smallness of the seed is, however, no argument against its vegetating: some of the *Ferns*, whose seeds are much smaller, are well known to some ingenious nurserymen near *London, to be propagated from seed, and to come up spontaneously in their hot-houses, where the original plant has scattered its seed: and it is most probably owing to a want of minute attention, that the progress of the *Orchis* seedlings has not yet been observed.

Were we however disposed to doubt the vegetative power of these seeds, we might urge, that their barrenness was owing to their not being properly impregnated; the Antheræ in the *Orchis* tribe, appearing to be totally different in their structure, from those of plants in general; and not containing, so far at least, as I have yet been able to discover, any similar pollen, or impregnating dust.

Each flower has two stamina, whose structure is well deserving the attention of the curious: each of these stamina is contained within a bag or case, the edges of which fold over each other, and open anteriorly, as the plant advances toward maturity, fig. 10, 11. At this period, in many of the *Orchis* tribe, they hang down out of their cases towards the stigma, and are particularly visible in the *Bee Orchis*, and some others: on the slightest pull they are drawn out, and then at the base of each filament, we discover a small transparent globule, fig. 6; and at the top a club-shaped substance, most commonly of a yellow colour, and granulated surface, which must be considered as the *Anthera*, fig. 8. On stretching this substance before the view of a microscope, it appears to be composed of a number of cubic or irregularly square corpuscles, united together by fine elastic threads, fig. 12: that these corpuscles produce the effect of *Pollen* seems highly probable, though in a manner, at present unknown to us.

There is no difficulty in distinguishing this species from all our other *Orchis*'s: its spotted leaves and early bloom, will in general be sufficient.

The beauty of its leaves and flowers, justly intitle it to a place in the gardens of the curious; and in which, if planted in a shady situation, it will readily grow.

It flowers in April and May.

About London it is become somewhat scarce; but in the woods and meadows in most parts of England, no plant more abounds.

Should it ever be found practicable, as well as profitable, to cultivate this genus of plants, for the purpose of making *Salap*, this species appears as likely to answer as any of them.

The extraordinary invigorating powers of the roots of these plants, have been handed down to us with ceremony, by many great names amongst antiquity: but we readily subscribe to the opinion of Monsieur GARIDEL, who in speaking of the *Orchis*, says that great names have introduced many absurd medicines.





Orchis fusca

ORCHIS FUSCA. GREAT ORCHIS.

ORCHIS. Linn. Gen. Pl. GYNANDRIA DIANDRIA.

NECTARIUM cornu referens pone florem. Cor. ringens.

Raii Syn. Gen. 26. HERBÆ BULBOSIS AFFINES.

ORCHIS *fusca* bulbis indivisis, nectarii labio quadrifido: laciniis oblongis, cornu brevi, petalis confluentibus. Linn. Syst. Vegetab. ed. 14. Murr. p. 809. Jacq. Pl. Austr. v. 4. p. 4. t. 307.

ORCHIS *militaris* Linn. Sp. Pl. ed. 3. p. 1334. var. β.

ORCHIS radicibus subrotundis; spica longa; labello quadrifido, brachiolis angustis, crurculis latis ferratis. Hall. Hist. Herb. n. 1276. t. 31.

ORCHIS magna, latis foliis, galea fusca seu nigricante. J. B. II. p. 759. Raii Syn. ed. 3. p. 378. t. 19. f. 2.

ORCHIS *militaris* major. Tourn. Inst. R. Herb. 432. Vaill. par. t. 31. f. 27, 28.

RADIX: Bulbi duo, oblongi, magni.

FOLIA caulina inferiora ovato-oblonga, obtusiuscula, a duabus ad tres uncias lata, glabra, lineata, in quibusdam speciminibus transverse rugosa, late virentia, superiora angustiora, caulem obvoiventia.

CAULIS pedalis, ad bipedalem, et ultra, erectus, teres, laevis, inferne viridis, superne purpureus.

FLORES numerosi, in spica longa, ovato-cylindracea, imbricatum dense collocati.

BRACTEÆ perbreves, vix longitudine calcaris nectarii, ovato-acuminatae.

COROLLA: PETALA 5 in galeam conniventia, tria exteriora ovata, acuta, obsolete 3-nervia, concava, punctis ex fusco-purpureis confluentibus notata, duo interiora multo angustiora, oblonga, versus apicem paululum dilatata, pallidiora, punctis purpureis etiam notata, fig. 1.

NECTARIUM: Calcar obtusum, subcompressum, obsolete bifidum, medium germinis vix attingens, albescens: Labellum amplum, latum, punctis purpureis prominulis exasperatum, quæ uti Hallerius recte monet brevium pilorum fasciculi sunt, in floribus nuper apertis saturatius purpureum, præsertim ad oras, quadrifidum, laciniæ superiores sublineares, divergentes, inferiores triplo latiores, divergentes, apicibus subtruncatis, eroso-denticulatis, mucrone plerumque intermedio.

STAMINA: Thecæ flaminum purpureæ, fig. 2. FILAMENTA flavescens, ANTHERÆ subclavata, albidæ, fig. 3.

GERMEN teretiusculum, tortuosum, glabrum, ex fusco viridique varium.

Ø ROOT two, oblong, large Bulbs.

Ø LEAVES: those on the lower part of the stalk ovato-oblong, a little blunt, from two to three inches broad, glossy, scored, in some specimens transversely wrinkled, of a lively green colour, the uppermost leaves narrower and surrounding the stalk.

Ø STALK a foot, two feet, and sometimes more in height, upright, round, smooth, green below, purple above.

Ø FLOWERS numerous, placed close together, one over the other, in a long spike, betwixt ovate and cylindrical.

Ø BRACTEÆ very short, scarcely the length of the spur of the nectary, ovato-acuminate.

Ø COROLLA: 5 PETALS closing and forming a helmet, the three outermost ovate, pointed, faintly three ribb'd, concave, marked with spots of a brownish purple colour running together, the two innermost ones much narrowest, oblong, a little dilated towards the top, paler, marked also with purple spots, fig. 1.

Ø NECTARY: the Spur blunt, somewhat flattened, slightly bifid, scarcely reaching to the middle of the germen: Labellum large, broad, rough, with prominent purple dots, which, as Haller justly observes, are little tufts of short hairs, in flowers lately opened of a deeper purple colour, especially on the edges, divided into four segments, the two uppermost of which are nearly linear and diverging, the two lowermost thrice as broad, diverging, the tips somewhat truncated, irregularly and finely notched, with a short point for the most part between the two.

Ø STAMINA: Cases of the flamina purple, fig. 2. FILAMENTS yellowish, ANTHERÆ somewhat club-shaped, whitish, fig. 3.

Ø GERMEN roundish, twisted, smooth, variegated with green and brown.

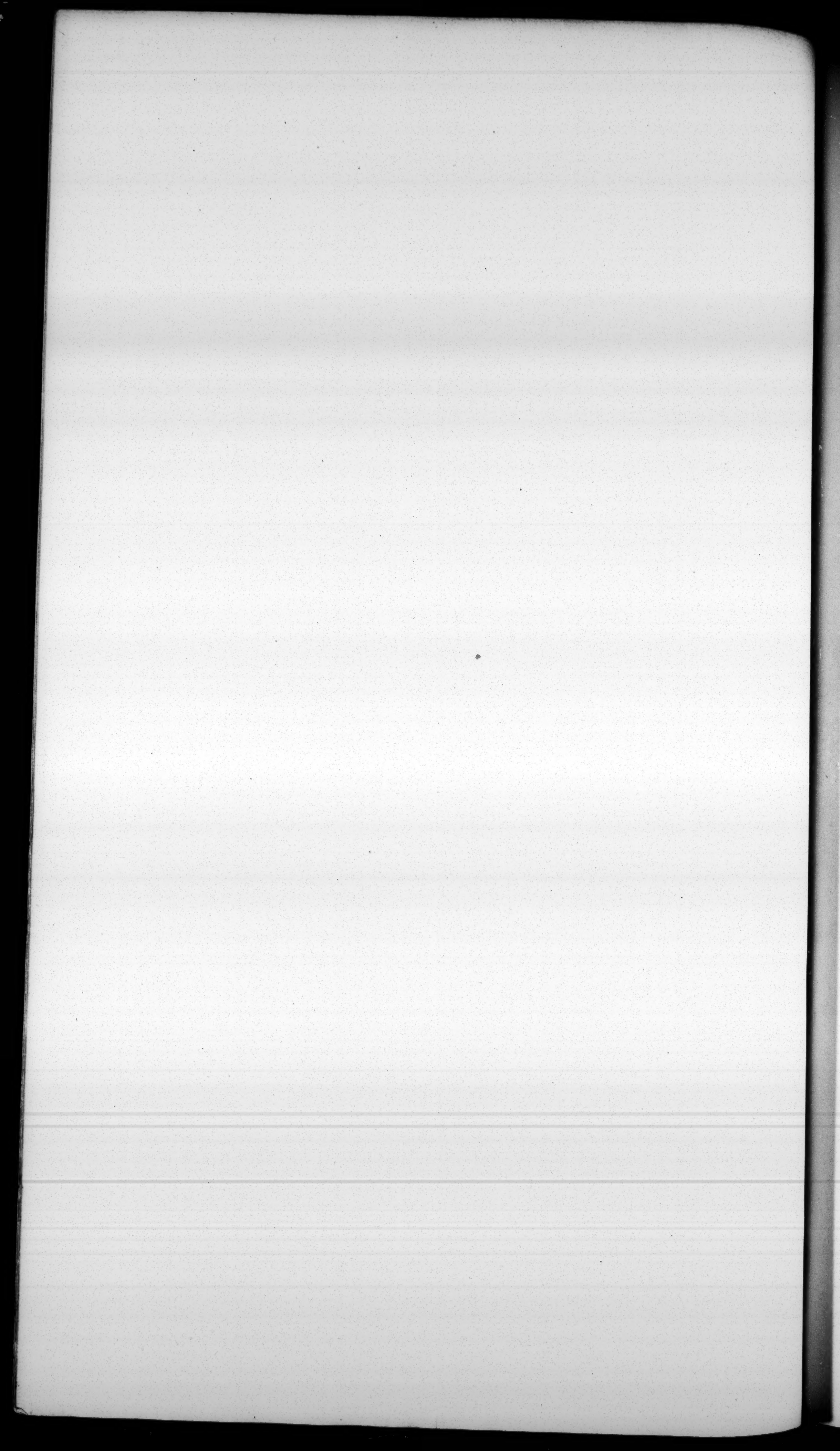
On chalky banks abounding with Milkwort and Juniper, near woods, and in the woods themselves, in many parts of Kent, especially about Rochester, we have had no small pleasure in observing this plant grow in great abundance.

In exposed aspects its usual height is about nine inches, in woods and copses where it is more sheltered, and where the soil is richer, it will acquire the height of two feet or more; such specimens in beauty and grandeur far surpass every British Orchis; its flowers vary exceedingly in colour, some being of a light, others of a deep purple colour, now and then one wholly white occurs; the lip of the nectary, an interesting object for the microscope, varies also in breadth; both root and flowers send forth a strong smell, somewhat like but not so pleasant as Anthoxanthum.

It flowers early in May, and in forward seasons at the close of April, at the same time as the early spotted Orchis, Cowslip, and Harebell.

Our plant is undoubtedly the *Orchis fusca* of JACQUIN, whose name we have adopted, as also the one we have referred to in HALLER, by whom it is represented in a very luxuriant state; LINNÆUS regards it as a variety of his *militaris*; Prof. MURRAY, in the 14th ed. of his *Syst. Vegetab.* follows RAY, HALLER, JACQUIN, VAILLANT, and others, in making it a species.

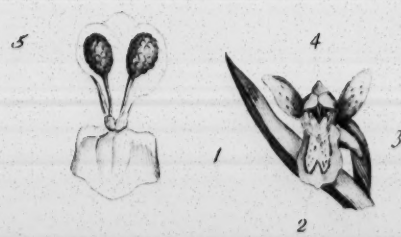
The same culture which we have recommended for the *Ophrys facifera* is applicable to this species.







Cretia latifolia



ORCHIS LATIFOLIA. MARSH ORCHIS.

ORCHIS *Lin. Gen. Pl. GYNANDRIA DIANDRIA.*

Nectarium corniforme pone florem.

Raii Syn. HERBÆ BULBOSIS AFFINES.

ORCHIS *latifolia* bulbis subpalmatis rectis, nectarii cornu conico: labio trilobo lateralibus reflexo, bracteis flore longioribus. *Lin. Syst. Vegetab. ed. 14. p. 810. Sp. Pl. 1334. Fl. Succ. n. 801.*

ORCHIS radicibus palmatis, caule fistuloso, bracteis maximis, labello trifido ferrato: medio segmento obtuso. *Haller. hist. 1279. t. 32.*

ORCHIS *latifolia. Scopoli Fl. Carn. n. 1118.*

ORCHIS palmata pratensis latifolia, longis calcaribus. *Bauh. Pin. 85.*

PALMA CHRISTI mas. *Ger. emac. 220.*

ORCHIS palmata mas f. Palma Christi mas. *Park. 1356.*

ORCHIS palmata non maculata. *I. B. II. 774. Raii Syn. p. 380. The Male-Handed Orchis, or Male Satyrion Royal. Lightfoot Fl. Scot. p. 516. Hudson Fl. Angl. ed. 2. p. 385.*

RADIX bulbosa, bulbis palmatis.

CAULIS plerumque pedalis aut sesquipedalis; ad apicem fere foliosus, crassus, fistulosus, superne subangulosus, glaber.

FOLIA e flavo viridia, suberecta, glabra, nobiscum immaculata, plerisque hujus generis et longiora et latiora.

FLORES nobiscum sæpius rosei seu carnei, sæpe purpurei, raro albi, spicati, conferti.

SPICA subovata, foliosa.

BRACTEÆ magnæ, acuminatæ, coloratæ, *fig. 1.*

COROLLA: petala quinque, duo exteriora ovato-lanceolata, suberecta, parum maculata, *fig. 3.* interiora conniventia, *fig. 4.* Calcar germen brevius, conicum, incurvum, obtusum.

NECTARIUM obsolete trilobum lineolis et punctis faturationibus pulchre variegatum, lateribus per ætatem reflexis, *fig. 2.*

STAMINA: FILAMENTA duo; ANTHERÆ subrotundo-clavatæ, e luteo-virescentes, *fig. 5.* auct.

ROOT bulbous, bulbs palmated, or handed.

STALK usually a foot or a foot and a half high, leafy almost to the top, thick, hollow, somewhat angular above, perfectly smooth.

LEAVES of a yellowish-green colour, nearly upright, smooth, spotless with us, and both longer and broader than most of this tribe.

FLOWERS with us for the most part rose or flesh-coloured, often purple, rarely white, growing in a spike thickly together.

SPIKE somewhat ovate, and leafy.

FLORAL-LEAVES large, long-pointed, and coloured, *fig. 1.*

COROLLA pentapetalous, the two outermost ovato-lanceolate, nearly upright, spotted a little, *fig. 3.* the innermost closing together, *fig. 4.* the Spur shorter than the germen, conical, incurved, and blunt.

NECTARY faintly three-lob'd, beautifully variegated with small lines and dots of a deeper colour, the sides reflexed with age, *fig. 2.*

STAMINA: two FILAMENTS; ANTHERÆ roundish, club-shaped, of a yellowish-green colour, *fig. 5.* magnified.

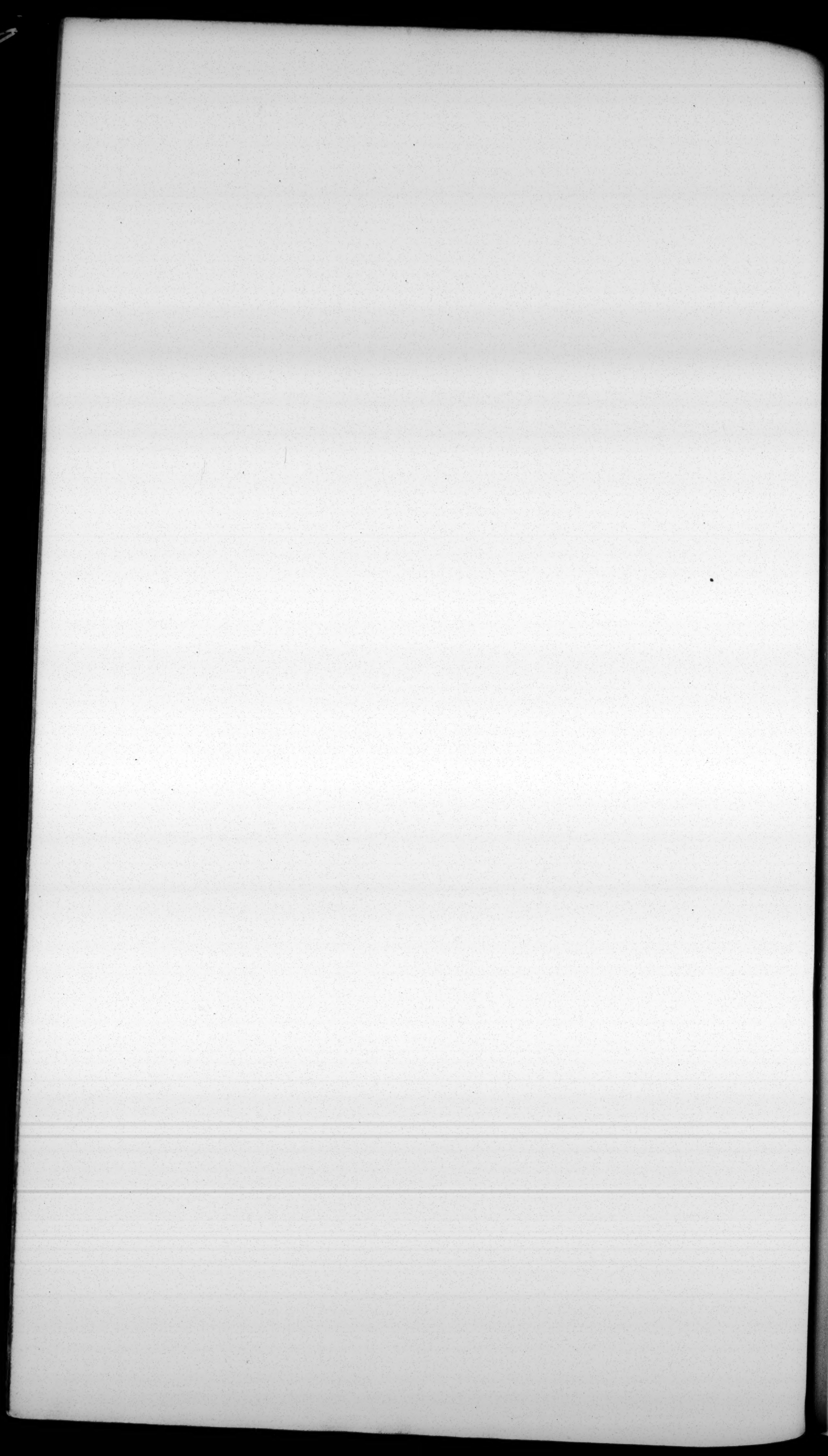
The *Orchis Latifolia* is particularly distinguished from the others, by growing (with us at least) only in very wet meadows, where *Valeriana dioica*, *Menyanthes trifoliata*, and *Lychnis Flos Cuculi*, usually abound, and from which circumstance, we have called it *Marsh Orchis*, by its spotless foliage, which is of a yellowish-green colour, and by the uncommon length of the floral leaves, which give the spike a very leafy appearance.

It comes nearest to the *maculata*: HALLER represents the leaves somewhat spotted, and LINNÆUS describes them *parum maculata*; we do not find them so in the neighbourhood of London; but probably they may be so in other places: should that be the case, these two plants will approach still nearer to each other.

With us, pink is the most predominant colour of its blossoms, though they are frequently found purple, and sometimes white; even in the same meadow.

We need go no further than Battersea-Meadows to find this plant in tolerable abundance; at a greater distance from town it will be found much more plentifully; it flowers towards the latter end of May.

It is more easily cultivated than many of the same genus, and if planted in a moist border, in a mixture of bog earth and loam, will grow to a much greater size than is represented on the plate.







Orchis Bifolia

ORCHIS BIFOLIA. BUTTERFLY ORCHIS.

ORCHIS. Linn. Gen. Pl. GYNANDRIA DIANDRIA.

Nectarium cornu referens pone florem. Cor. ringens.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

ORCHIS *bifolia* nectarii labio lanceolato integerrimo, cornu longissimo, petalis patentibus. Linn. Syst. Vegetab. ed. 14. Murr. p. 808. Sp. Pl. ed. 3. p. 1331. Scop. Carn. ed. 2. n. 1102. Hudf. Fl. Angl. ed. 2. p. 382. Fl. Dan. t. 235.

ORCHIS radicibus oblongis, labello lineari. Hall. Hist. n. 1285. t. 35.

ORCHIS alba bifolia minor calcari oblongo. Baub. Pin. 83.

ORCHIS sphegodes / Testiculus vulpinus primus. Park. 1351. 7.

HERMAPHRODITICA. Bees Satyrion. Ger. Herb. p. 162. fig. 1. emac. p. 211. f. 1.

TESTICULUS pfycodes. Gnat Satyrion. Ger. emac. p. 211. f. 2.

ORCHIS hermaphroditica bifolia. J. B. II. 772. Raii Syn. ed. 3. p. 380. Butterfly Satyrion.

RADIX: bulbi duo, majusculi, ovati, inferne acuminati.

CAULIS pedalis, et ultra, foliosus, lævis, hexagonus, nervis tribus e singulo folio decurrentibus.

FOLIA radicalia plerumque duo, opposita, ovalia, glabra, nervosa, obtusiuscula; caulina lanceolata, sessilia.

FLORES numerosi, ex albido-lutescentes, odorati, in spica longa laxiuscula dispositi.

BRACTEÆ longitudine germinis, lanceolatae, foliis caulinis superioribus simillimæ.

COROLLA: PETALA quinque, tria superiora conniventia, suprema cordata, obtusa, incumbens, planiuscula, marginibus reversis, duo lateralia lanceolata, sibi invicem versus curvata, truncata, duo inferiora majora, alarum instar expansa, ovata, acutiuscula; Labellum dependens, alis longior, sublineare, antice convexum, postice concavum, obtusum, inferne virescens, fig. 1. Calcar germini duplo fere longior, melliferum, diaphanum, tenue, versus apicem virescens, compressiusculum et paulo dilatatum.

STAMINA: FILAMENTA duo, remota; ANTHERÆ flavescens, fig. 2.

PISTILLUM: GERMEN longitudine bractæ, tenue, tortuosum, profunde striatum.

ROOT: two bulbs, somewhat large, ovate, terminating below in long points.

STALK a foot or more in height, leafy, smooth, six-angled, three ribs running down from each leaf.

LEAVES of the root usually two, opposite, ovate, smooth, ribbed, somewhat blunt; those of the stalk lanceolate and sessile.

FLOWERS numerous, of a yellowish-white colour, sweet-scented, disposed in a long and somewhat loose spike.

FLORAL-LEAVES the length of the germen, lanceolate, very like the uppermost leaves of the stalk.

COROLLA: five PETALS, the three uppermost closing together, the uppermost one cordate, obtuse, incumbent, flattish, the edges reversed, the two side ones lanceolate, bent towards each other, truncated, the two lowermost larger, expanded like wings, ovate, and somewhat pointed; Lip dependent, longer than the wings, somewhat linear, convex on the fore part, concave behind, obtuse, on the lower part greenish, fig. 1. Spur almost twice the length of the germen, honey-bearing, transparent, slender, towards the tip greenish, flattened a little, and somewhat spreading.

STAMINA: two FILAMENTS, situated remotely from each other; ANTHERÆ yellowish, fig. 2.

PISTILLUM: GERMEN the length of the bractea, slender, twisted, deeply striated.

This species of Orchis has obtained the name of *bifolia*, on account of its radical leaves being usually two in number, and placed opposite to each other; but this character is not perfectly to be relied on, as three are frequently met with, nor are those radical leaves so strictly opposite to each other as some authors have represented them, or as they are in the *Ophrys ovata*; the English name of *Butterfly Orchis* is scarcely warranted by the appearance of the flowers.

If not so common an Orchis as some, it is much more so than others, being found generally throughout the kingdom in woods, pastures, and heaths, especially in soils somewhat stiff and moist; in the first of these situations it is by far the most luxuriant, in the latter it is frequently so dwarfish as to be regarded as a variety; the lip of the nectary is also found to vary considerably in length in different specimens.

It is obviously distinguished from others of the genus by the colour of its blossoms, the extreme length of its spur, the delicious fragrance of its flowers, diffused most in the morning and evening, and which may vie with that of the honeysuckle; but, above all, by the unusual structure of its flowers: below the stigma (remarkably well defined in this species) there is a circular foramen, fig. 2. between the cavities containing the stamina, just above the stigma, is a very conspicuous ridge, fig. 3. the cases containing the stamina, are placed widely distant from each other, and soon change to a brownish hue; the stamina are very loosely placed within them, and drawn out with the slightest touch; the antheræ are club-shaped, and divided as in most others; the gland at the base of the filament is of a circular form, with a cavity on its inner side, fig. 7. and a kind of joint-like projection on its outer part, fig. 6. difficult to describe;—taken altogether, this part is wonderfully curious, and deserving of attention.

This species is not so difficult of culture as many others; and, as its roots are large, it appears to be as well calculated for the formation of salep as any other.







Helianthus pinnatifidus L.

OPHRYS APIFERA. BEE ORCHIS.

OPHRYS. *Lin. Gen. Plant. ed. 3.* GYNANDRIA DIANDRIA.
ORCHIS. *Raii Synopsis, ed. 3.* 379. HERBÆ BULBOSIS AFFINES.

OPHRYS. bulbis subrotundis, scapo folioso, nectarii labio quinquelobo; lobis subtus inflexis. *Hudson. Flor. Angl.* 340.

ORCHIS. radicibus subrotundis, labello holosericeo, emarginato, appendiculato. *Haller. Hist. Vol. 2.* 1266. tab. 24.
Duas species *apiferam* et *musciferam* HUDSONIS et HALLERI sub uno nomine *Insectiferæ* conjungit
CL. LINNÆUS.

Fuschii icon 560. *Baubin pin.* 83. *Gerard, emac.* 212.

RADIX. Bulbi duo, subrotundi, inæquales, radiculis longis vix fibrosis supra instructi.

CAULIS Semipedalis aut pedalis, teres, *fig. 1.* foliosus.

FOLIA Vaginantia, ovato lanceolata, subtus subargentea, fibris lineata, sæpe mutilata et fusca.

BRACTEÆ magnæ, vaginantes, virides, longitudine floris.

FLORES a tribus ad sex, spicati.

COROLLA. PETALA quinque, tria exteriora reliquis majora, ovata, concava, reflexa, purpurascens, inferioribus pallidioribus, subcarinata, carina viridi, *fig. 2*; duo interiora exterioribus quadruplo minora, angusta, *hirsuta*, *postice canaliculata*, ad basin latiora, antrorsum extantia.

NECTARII Labellum amplum, leniter convexum, suborbiculatum, fusco sericeum, maculis flavis frequenter variegatum, quinquelobum, lobis inflexis, *fig. 3.* lateralibus subtriangularibus, *hirsutis*; *fig. 4.* medio anteriorum productiore, apice recurvato flavo, *fig. 5.*

Machina staminum five Stylus longa, subrecta, apice incurvata et sursum recurvata, *fig. 11.* antice bilocularis, loculis apertis, *fig. 12.* angustis, marginibus albis, membranaceis. *fig. 13.*

STAMINA. FILAMENTA duo, *fig. 6.* e squamula nectarifera ad basin Styli exeuntia, nutantia, Stigmati frequenter adhaerentia, *fig. 8.* basi glandula five globulo albo pellucido instructa, *fig. 7.* ANTHERÆ subrotundæ flavæ, *fig. 9.*

PISTILLUM. GERMEN oblongum, hexangulare, angulis obtusis rectis, STIGMA, *fig. 10.* melleo liquore obductum, cui particulae antherarum frequenter adhaerent.

PERICARPIUM. CAPSULA oblonga, fusca, uncialis, *fig. 14.* unilocularis, *fig. 16.* trivalvis, valvis carinatis. *fig. 15.*

SEMINA plurima, minuta, oblonga, utraque extremitate membranacea, pellucida, reticulata, *fig. 18.* lente aucta, interiori parti carinae longitudinaliter affixa *fig. 17.*

ROOT. Two roundish, unequal bulbs, furnished at top with a few small longish fibres, but little branched.

STALK from half a foot to a foot high, round, *fig. 1.* leafy.

LEAVES embracing the stalk, of an oval pointed shape, underneath silvery, with linear fibres, frequently imperfect, and of a brown colour.

FLORAL LEAVES large, in the form of a sheath, green, and of equal length with the flowers.

FLOWERS from three to six growing in a spike.

COROLLA. five PETALS, the three exterior larger than the rest, oval, concave, turning back, purplish, somewhat keel shaped, the keel green, *fig. 2.* the latter flowering palest; the two interior four times smaller than the others, narrow, hairy, hollow behind, broadest at bottom, and projecting forward.

NECTARY. The lip of the Nectary, large, somewhat convex, roundish, of a silky brown colour, frequently variegated with yellow spots; having five lobes, the lobes bending underneath, *fig. 3.* The two side lobes, somewhat triangular and hairy, *fig. 4.* the middle of the anterior running out to a point, which turns back, and is of a yellow colour, *fig. 5.* the Style which in this plant supports the Stamina, long, upright, at the tip bending downwards and again upwards, *fig. 11.* anteriorly having two cavities which are open and narrow, *fig. 11.* the edges white and membranous, *fig. 13.*

STAMINA. two FILAMENTS, *fig. 6.* arising from the bottom of the style out a nectariferous scale, hanging down, frequently adhering to the Stigma, *fig. 8.* furnished at bottom with a small transparent gland or globule, *fig. 7.*—The ANTHERÆ roundish and yellow, *fig. 9.*

PISTILLUM. the GERMEN oblong, having six angles, the angles obtuse, not twisted, the STIGMA, *fig. 10.* covered with a viscid substance like honey, to which small particles of the Antheræ frequently adhere.

SEED VESSEL. a CAPSULE about an inch in length, oblong, brown, *fig. 14.* of one cavity, *fig. 16.* and three valves, the valves keel shaped. *fig. 15.*

SEEDS numerous, small, oblong; at each end membranous, transparent, and reticulated, *fig. 18.* magnified, affixed lengthwise to the inside of the keel of each valve, *fig. 17.*

Flowers in the Months of JUNE and JULY, the Seed is ripe the latter End of AUGUST.

Grows generally on chalky ground near woods, and sometimes in meadows; is become so rare about London, as scarcely to be found with any certainty—Mr. Alchorne informs me he has frequently gathered it in the pits behind Charlton church, and in the woods near Chiffelhurst in Kent.—But it is often met with in plenty at a greater distance from town.

The root appears to possess the same virtues with those of the Orchis from which Salop is made, but being much smaller, is not worth cultivating on that account. The great resemblance which the flower bears to a Bee, makes it much sought after by Florists, whose curiosity indeed, often prompts them to exceed the bounds of moderation, rooting up all they find, without leaving a single specimen to cheer the heart of the Student in his botanic excursions. The best time of transplanting them is when they are in flower. This, with most of the other Orchis's, was cultivated with the greatest success by the late PETER COLLINSON, Esq; (whose memory will always be revered by every Botanist) in his garden at Mill-hill.—His method was to place them in a soil and situation as natural to them as possible, and to suffer the grass and herbage to grow round them.

I have not yet heard of their being propagated by seed; it is to be wished that some intelligent Gardiner would exert himself in making some experiments to raise them in this way.

Botanists have often been at a loss in classing many plants, to find some resemblance by which they might distinguish their particular species; but in this plant the case is otherwise, the flower is so like the insect that gives it its name, that it strikes every beholder with admiration; what useful purpose is intended by it, we do not at present know: Some future Observer may perhaps discover, for they who will examine Nature herself, "have much to see."





*Cypripedium
pubescens*

OPHRYS FUCIFERA. GREEN-WINGED OPHRYS.

OPHRYS. *Linn. Gen. Pl. GYNANDRIA DIANDRIA.*

Nectarium subtus subcarinatum.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

OPHRYS *aranifera* bulbo subrotundo, scapo folioso, nectarii labio subrotundo integro emarginato convexo. *Huds. Fl. Angl. ed. 2. p. 392.*

OPHRYS *insectifera* var. & *Linn. Sp. Pl. ed. 3. p. 1313.*

ORCHIS fucum referens colore rubiginoso. *Baub. Pin. p. 83. Vaill. Par. p. 146. t. 31. f. 15. 16. Tourn. Inst. t. 247. CC.*

ORCHIS five Testiculus sphegodes hirsuto flore. *J. B. II. 767. Raii Syn. ed. 3. p. 380. Humble Bee Satyrion with green wings.*

TESTICULUS vulpinus 2 sphegodes. *Humble Bee Orchis. Ger. emac. p. 212. f. 3.*

ORCHIS Sphegodes five fucum referens. The greater Drone Bee flower. *Park. Tb. p. 1350. as to the fig. but not the descr.*

RADIX bulbi duo, subrotundi.

CAULIS semipedalis, humilior elatiorve pro ratione loci, teres, lævis, inferne foliis vaginantibus vestitus.

FOLIA radicalia sesunciam longa, unciam fere lata, ovato-lanceolata, obtusiuscula, lineata, lævia, supra terram expansa, caulina pauca angustiora et acutiora.

FLORES 3—6 in spica rara.

COROLLA: PETALA 5, pallide viridia, tria exteriora majora, longitudine labelli, horum duo opposita, ovato-lanceolata, obtusa, subincurvata, suprema angustata marginibus revolutis; duo interiora breviora, lanceolata, erecta, aut paululum recurvantia, apice plerumque subtruncata: *fig. 1. Labellum* suborbiculatum, inferne concavum, superne convexum, lateribus deflexis, primo purpureo-fusco vivide coloratum, mox flavescent, in medio macula literam Hebraicam π quodammodo referente sapius notatum, in diversis floribus diversa, ut in icone exprimitur, villis densis obsitum, praesertim ad latera, ubi plerumque prominet, maculis exceptis, quæ nudæ nitidæque sunt.

STAMINA: FILAMENTA duo, albida; ANTHERÆ clavatæ, *fig. 2.* flavescentes; thecæ in quibus continentur, *fig. 3.* per totam longitudinem apertæ, marginibus membranaceis, superne subdiaphanis, ubi color antherarum transparet.

PISTILLUM: STIGMA concavum, purpurascens, utrinque glandula virescente notatum, *fig. 4.*

ROOT two roundish bulbs.

STALK six inches high, shorter or taller according to its place of growth, round, smooth, covered below with leaves embracing it.

LEAVES next the root an inch and a half long, almost an inch broad, ovato-lanceolate, somewhat blunt, marked with impressed lines, smooth, expanding on the ground, those of the stalk few, narrower, and more pointed.

FLOWERS from 3 to 6, in a thin spike.

COROLLA: 5 PETALS of a pale-green colour, the three outermost largest and the length of the labellum, of these the two opposite ones are ovato-lanceolate, obtuse, bent somewhat inwardly, the uppermost one narrowed, with the edges rolled back, the two innermost shorter, lanceolate, upright or bent a little back, generally somewhat truncated at the tip: *fig. 1.* the Labellum nearly orbicular, below concave, above convex, the sides bent down, at first of a bright purple brown colour, soon changing to a yellowish hue, marked in the middle with a spot considerably resembling the Hebrew letter π , differing however in its form in different flowers, as is expressed in the plate, covered thickly with short hairs, especially at the sides, where it for the most part projects, the spots excepted, which are smooth and glossy.

STAMINA: two FILAMENTS of a whitish colour; ANTHERÆ club-shaped, *fig. 2.* yellowish, the cases in which they are contained, *fig. 3.* open through the whole length, their edges membranaceous, and near the top, so transparent that the colour of the antheræ is seen through them.

PISTILLUM: STIGMA concave, purplish, marked on each side with a greenish gland, *fig. 4.*

The *Ophrys arachnites*, *Linn. Sp. Pl. ed. 3.* a variety of his *insectifera*, comprehends to our certain knowledge three perfectly distinct species, viz.

1. *Orchis araneam* referens, *Baub. Pin.*
2. *Orchis fucum* referens colore rubiginoso, *Baub. Pin.*
3. *Orchis fucum* referens major foliis superioribus candidis et purpurascens. *Baub. Pin.*

Of these plants LINNÆUS appears to have had a very imperfect knowledge; and HALLER, who particularly directed his attention to the Orchideæ, seems either not to have known, or to have confounded them; the same may be said of MURRAY and GMELIN, in neither of whose editions of LINNÆUS is our *fucifera* or *apifera* enumerated: VAILLANT in his *Botan. Paris.* gives a very just representation of the flowers of the three species, all of which are natives of France, and by those representations may be said to have first clearly ascertained them; for the figures of the older authors want the necessary accuracy. Of the *arachnites*, an excellent print, for the time in which it was executed, is given in the *Hortus Eyslettensis*, a library of itself, and to which one cannot but regret that LINNÆUS has so few references; an accurate figure and description of it is also given by HALLER, in his *Hist. Stirp. Helv.* Hitherto, this plant, common to Switzerland, and many parts of Europe, has not been discovered wild in this country: a plant of it in full bloom, and in great perfection

perfection at this present time, June 1, 1794, is the pride of my garden at Brompton: this must be regarded as the true *arachnites* of LINNÆUS, since it is indisputably the same as the one figured by VAILLANT, to which he refers, and the *Orchis araneam referens* of C. BAUHINE, to which he also refers; indeed as such it is admitted by Professor MURRAY, in the 14th edition of the *Systema Vegetab.* with a suitable specific description according with that of HALLER. It is evident that Mr. HUDSON, when he gave to the species here figured, the name of *aranifera* (a term synonymous with that of *arachnites*) and which he was the first to describe specifically in the Linnæan style (though RAY in his *Synopsis* had pointed out its striking character) regarded the *arachnites* of LINNÆUS and the ♀ variety of it as the same species, from his referring to two different figures in VAILLANT for his plant; this he ought not to have done, but following LINNÆUS's reference to BAUHINE, have selected the term *fucifera*, which we have been under the necessity of doing, rather than be subject to the confusion arising from having two different plants called by synonymous terms.

Our plant is the *Ophrys*, commonly known in this country by the name of the Bee Orchis with green wings, the petals being altogether of an herbaceous colour; while in the *apifera*, already figured, three of them are pale purple; as they differ in colour, so do they also very materially in shape, and as these differences are invariable, any other mark of discrimination is almost superfluous, yet we may observe, that they flower at two very different periods, the *fucifera* has sometimes been found in mild seasons in bloom as early as March, in late ones in May, while the *apifera* rarely flowers till the end of June or beginning of July.

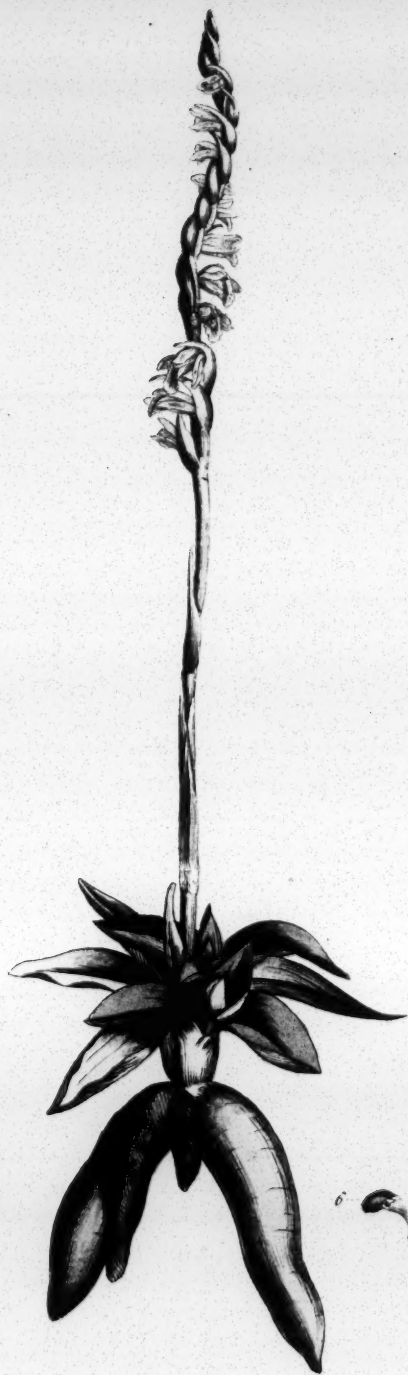
Some authors have fancied that the flowers of this plant bore a resemblance to a bee or a spider, it must be confessed that much of this similitude depends on the imagination; others have discovered a more real likeness to a small bird in each flower: this appearance will be obvious to our readers on inspecting the plate. When a trifling likeness of this sort has occurred in plants, or animals, the old authors generally improved on it; even TOURNEFORT's figure of this part of our plant is somewhat *outré* in this respect.

In this species the nectary, which at first is of a bright and very rich brown colour, soon changes to a faded yellow green; when the flowering is over, the petals incline forward, and close over the nectary.

Though the *Ophr. apifera* is found abundantly near London, this species has not yet been observed equally near; we have seen it growing, though very sparingly, in the chalk pits near Leatherhead; in the neighbourhood of Bury, in Suffolk; also, about Cambridge it is found some years in great abundance: from the former place we have been favoured with roots of it by Sir TH. G. CULLUM, Bart. and from the latter by Professor MARTYN, and the Rev. J. DAVIES, of Trinity-College: it has been observed also in various other parts of the Kingdom.

Such as delight in the culture of flowers will be pleased to find, that with a little attention and management they may succeed in making this plant grow and flower with them more freely than many of the tribe; we recommend to them the following method, which we have found successful: take up the roots carefully when in flower, bare them no more than is necessary to remove every other kind of root about them, fill a large-sized garden pot with three parts choice loam moderately stiff, and one part chalk mixed well together and passed through a sieve somewhat finer than a common cinder sieve, in this mixture place your roots at about the depth of two inches, and three inches apart, water them occasionally during summer if the weather prove dry, at the approach of winter place your pot in a frame under a glass to keep them from wet and frost, which combined destroy the beauty of the foliage, if not the plant itself; in the autumn, before any of the others make their appearance, you will perceive the leaves of this species emerge, much sooner indeed than might be expected.





Cypripedium spirale.

OPHRYS SPIRALIS. LADIES TRACES.

OPHRYS *Lin. Gen. Pl. GYNANDRIA DIANDRIA.*

Nectarium fubtus fubcarinatum.

Raii Syn. Gen. 21. HERBÆ RADICE BULBOSA PRÆDITÆ.

OPHRYS *spiralis* bulbis aggregatis oblongis, caule fubfoliofo, floribus fecundis, nectarii labio indivifo crenato. *Lin. Syft. Vegetab. p. 677. Sp. Pl. 1340.*

EPIPACTIS bulbis cylindricis, fpica fpicali, labello crenulato. *Haller. Hift. n. 1294.*

SERAPIAS *spiralis. Scopoli Flor. Carn. n. 1125.*

ORCHIS *spiralis alba odorata. I. B. II. 769.*

TRIORCHIS *alba odorata minor, atque etiam major. Baubin. Pin. 84.*

TRIORCHIS. *Ger. emac. 218. Parkins. 1354 Raii Syn. p. 378. Triple Ladies Traces. Hudfon Fl. Angl. p. 388.*

RADIX fit uno, duobus, tribus, quatuorve bulbis, oblongis, acuminatis, villosis.

FOLIA radicalia quatuor, et ultra, fupra terram expansa, ovata, acuta, hinc convexa, inde cava, femunciam lata, ad lentem punctata, obfolete nervofa.

SCAPUS fpathamæus, foliofus, foliis vaginantibus, pubefcentibus, margine membranaceis.

FLORES ex albo-virefcentes, odorati, quindecim et ultra, *fpicæ modo difpofiti.*

BRACTÆA oblonga, acuminata, cava, villofa, germen cum dimidio floris longitudine. *fig. 1.*

PETALA quinque, alba, fubæqualia, villofula, tria fuperiora fubcoadunata, recta, duo lateralia carinata, lanceolata, *fig. 2, 3;* labellum *Nectarii* obtufum, crenulatum, intus viridulum, concavum, *fig. 4. auct. fig. 5.*

GERMEN fessile, ovatum, lineis duabus lateralibus extantibus notatum. *fig. 6.*

ROOT confifts of one, two, three, or four oblong, pointed, villous bulbs.

LEAVES next the root four, or more, fpread out on the ground, ovate, pointed, convex on one fide, and concave on the other, half an inch in breadth, dotted when magnified, and faintly ribbed.

STALK fix or feven inches high, leafy, leaves fheathy, downy, and membranous at the edge.

FLOWERS of a greenifh white colour, fragrant, fifteen and more in number, *fpirally difpofed.*

FLORAL-LEAF oblong, pointed, hollow, villous, of the length of the germen, and half the flower, *fig. 1.*

PETALS five, white, nearly equal, fomewhat villous, the three uppermoft very flightly connected together, ftraight, the two fide ones keeled and lanceolate, *fig. 2, 3;* the lip of the *Nectary* blunt, finely notched, green within and hollow, *fig. 4. magnified, fig. 5.*

GERMEN fessile, ovate, marked with two protuberant fide lines. *fig. 6.*

The Rev. Dr. GOODENOUGH, of *Ealing*, kindly communicated to us this plant, having found it fparingly on *Harsted Heath*, near *Ealing*: though fcarce with us, in many parts of *England*, efpecially the more northern, it is not uncommon. It grows in paftures, both dry and moift, and does not particularly affect a chalky foil. In the garden it grows more readily than moft of its tribe, and flowers later, its ufual month of blowing being *September*.

The protuberant germina, placed regularly one above another, fomewhat refemble plaited hair, whence, perhaps, its name of *Ladies traces*. The flowers are fragrant, and, by the fpiral manner in which they grow, form a curious fpecific character.

Baron HALLER, who has taken infinite pains with the plants of this tribe, has not very happily expreffed this fpecies; his artift appears to have had an unnatural fpecimen to copy from.

The Ladies Traces varies much in fize as well as in the number of its roots.





Ophrys
Anthropophora



OPHRYS ANTHROPOPHORA. MAN OPHRYS.

OPHRYS Linn. Gen. Pl. GYNANDRIA DIANDRIA.

Nectarium subtus subcarinatum.

Raii Syn. Gen. 26. HERBÆ BULBOSIS AFFINES.

OPHRYS *anthropophora* bulbis subrotundis, scapo folioso, nectarii labio lineari tripartito: medio elongato bifido. Linn. Syst. Vegetab. ed. 14. Murr. p. 814. Sp. Pl. ed. 3. p. 1343. Hudf. Fl. Angl. ed. 2. p. 390.

ORCHIS radicibus subrotundis, spica longa, flore inermi, labello perangusto quadrifido. Hall. Hist. n. 1264.

ORCHIS *anthropophora* oreades. Col. Ecph. 1. 320. Raii. Syn. ed. 3. p. 379. Park. 1348. 7.

ORCHIS flore nudi hominis effigiem representans fœmina. Baub. Pin. p. 82. Vaill. Par. p. 147. t. xxxi. fig. 19, 20.

RADIX bulbi duo, oblongi, odorati.

SCAPUS pedalis et ultra, foliosus, teres, glaber, superne subangulosus.

FOLIA radicalia in florente planta erectiuscula, ovato-oblonga, obtusiuscula, glaberrima, pallide viridia, caulina pauca, angustiora.

FLORES numerosi conferti, luteo virentes, in spica subpalmari.

BRACTEÆ lanceolato-acuminatæ, virides, germine breviores, fig. 1.

COROLLA: PETALA quinque viridia, in galeam conniventia, fig. 3, 4. tria exteriora ovata, obtusa, marginibus rufis, duo interiora-linearia: Nectarii labellum petalis longius dependens, flavescens, in quibusdam penitus rufescens, tripartitum, laciniis linearibus, lateralibus subdivergentibus, intermedia elongata bifida, fig. 5, 6, paulo infra stigma quod profunde excavatum est, duæ sunt glandulæ pellucidæ, nitidæ, valde conspicuæ.

STAMINA: FILAMENTA 2 brevissima; ANTHERÆ flavæ, fig. 7.

PISTILLUM: GERMEN teres, viride, tortuosum, fig. 2.

ROOT two oblong bulbs, odoriferous.

STALK a foot or more high, leafy, round, smooth, slightly angular above.

LEAVES next the root in the flowering plant nearly upright, ovato-oblong, somewhat obtuse, perfectly smooth, of a pale green colour, those of the stalk few and more narrow.

FLOWERS numerous, growing thickly together, of a yellowish green colour, in a spike about a hand's-breadth in length.

FLORAL-LEAVES lanceolate, tapering to a point, green, shorter than the germen, fig. 1.

COROLLA: five PETALS, of a green colour, closing so as to form a hood, fig. 3, 4; the three outermost ovate, obtuse, their edges reddish brown, the two innermost linear: the lip of the nectary longer than the petals, hanging down, yellowish, in some wholly reddish brown, divided into three segments, which are linear, the side ones diverging somewhat, the middle one elongated and bifid, fig. 5, 6; a little below the stigma, which is deeply hollowed out, are two pellucid shining glands, very conspicuous.

STAMINA: two FILAMENTS very short; ANTHERÆ yellow, fig. 7.

PISTILLUM: GERMEN round, green, twisted, fig. 2.

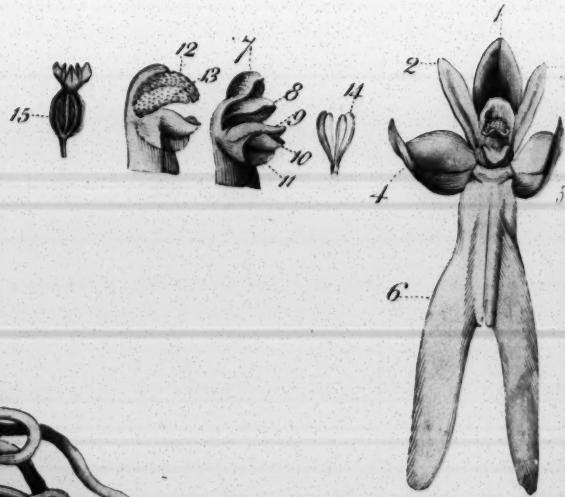
The flowers of this species have been considered as bearing some similitude to the effigies of a man, whence its name: the old authors in their figures of it have improved on this resemblance, at the expence of truth. Vid. PARKINSON, and others.

It is a plant common to the more southern parts of Europe, and is found chiefly on calcareous soils, with us principally in dry pastures and old chalk pits, in such situations it is one of the most common of the tribe in Kent; we have found it also plentifully in the chalk pits about Leatherhead and elsewhere.

It varies in size, and in the colour of its flowers, from yellow green to bright ferruginous; flowers in May and June, and is more easily cultivated than many others of the same genus.

The root, and indeed the whole plant, emits a strong odour.



Ophrys ovata

Lanscom sculp

OPHRYS OVATA. TWAYBLADE.

OPHRYS *Lin. Gen. Pl. GYNANDRIA DIANDRIA.*

Nectarium subcarinatum.

Raii Syn. Gen. 29. HERBÆ RADICE BULBOSA PRÆDITÆ.

OPHRYS *ovata* bulbo fibroso, caule bifolio, foliis ovatis, nectarii labio bifido. *Lin. Syst. Vegetab. p. 667. Sp. Pl. 1342. Fl. Suec. n. 808.*

EPIPACTIS foliis binis ovatis, labello bifido. *Haller. hist. 1291. t. 37.*

OPHRYS *ovata*, *Baubin. Pin. 87. Ger. emac. 402.*

BIFOLIUM sylvestre vulgare *Parkins. 504. Raii Syn. 385. Common Twayblade.*

Fl. Dan. t. 137. Hudson Fl. Angl. ed. 2. p. 388. Lightfoot Fl. Scot. p. 523.

RADIX perennis, fibrosa, fibris plurimis, teretibus, cylindricis, contortis.

SCAPUS pedalis et ultra, solidus, teres, villosus, subviscidus, foliolis paucis perbrevis, alternis, acuminatis, vaginantibus instructus.

FOLIA bina, prope terram, inferiore basi sua superioris basin ambiente, ovata, mucronata, quinquenervia.

FLORES herbacei, spicati, laxè et distinctè infidentes.

SPICA prælonga, angusta.

Fig. 1. ad 12. exhibent partes fructificationis sicut per lentem apparent.

Fig. 1. ad 6. Flos antice visus.

Fig. 1. 4. 5. PETALA exteriora latiora, 2. 3. interiora angustiora.

Fig. 6. Labellum NECTARII bifidum, in situ naturali sæpius inflexum.

Fig. 7. Squama superior, fig. 10. Squama inferior, (sustentaculum Halleri) inter quas theca staminum quasi in forcipe continetur.

Fig. 12. Theca staminum, cum staminibus inclusis.

Fig. 8. Theca staminum, demissis staminibus, fig. 9.

Fig. 15. STAMINA cum ANTHERIS bilamellosis, flavis, seorsim exhibitis.

Fig. 11. Stigma.

Fig. 15. PERICARPIUM nat. magnitud.

ROOT perennial, fibrous, fibres numerous, round, cylindrical, matted together.

STALK a foot or more in height, solid, round, villos, slightly viscid, and furnished with very short, alternate, pointed sheathing leaves.

LEAVES growing in pairs, near the ground, the lower one by its base surrounding the base of the upper one, ovate, pointed, with five ribs.

FLOWERS of a greenish colour, growing in a spike, sitting loosely and distinctly.

SPIKE very long and narrow

Fig. 1. to 12. exhibit the parts of the fructification as they appear through a magnifier.

Fig. 1. to 6. a flower seen in front.

Fig. 1. 4. 5. the outer broadest PETALS, 2. 3. the inner and more narrow ones.

Fig. 6. the Lip of the NECTARY, which in its natural situation is generally bent inward.

Fig. 7. the superior Squama, fig. 10. the inferior Squama (the sustentaculum of Haller) between which the case containing the stamina is held as in a pair of forceps.

Fig. 12. the Case of the stamina, with the stamina enclosed.

Fig. 8. the Case of the stamina, the stamina having fallen out, fig. 9.

Fig. 15. the STAMINA with the ANTHERÆ composed of two lamellæ of a yellow colour shewn by themselves.

Fig. 11. the Stigma.

Fig. 15. SEED-VESSEL of its natural size.

To render the characters of this genus, which are very difficult of investigation, easy to the Botanic Student, they are represented in a magnified state, and particularly referred to.

It will be seen on comparing, how very different they are from those of the Orchis.

This species of Ophrys is the most common of the whole genus, and may be found in most of the woods about London, particularly such as have a moist soil, as about Shooter's-hill, and sometimes it is found in Meadows and on Heaths.

A variety with three leaves is now and then met with.

It flowers in May and June.





Arum maculatum

Sansom Sculp

ARUM MACULATUM. CUCKOW-PINT.

ARUM *Linnaei Gen. Pl.* GYNANDRIA POLYANDRIA.

Spatha monophylla, cucullata, *Spadix* supra nudus, inferne femineus, medio stamineus.

Raii Syn. Ger. 16. HERBÆ BACCIFERÆ.

ARUM *maculatum* acaule, foliis hastatis integerrimis, spadice clavato. *Lin. Syst. Vegetab.* p. 690.

ARUM foliis sagittatis; spatha recta: clava cylindrica. *Haller. hist. helv. n.* 1302.

ARUM *maculatum.* *Scopoli Fl. Carniol. n.* 1138.

ARUM vulgare maculatum. *Baubin pin.* 195.

ARUM vulgare. *Gerard. emac.* 834.

ARUM *maculatum et non maculatum.* *Park.* 373. *Raii Syn.* p. 266, Wake-Robin, Cuckow-pint.

Hudson. Fl. Angl. p. 342.

Lightfoot Fl. Scot. p. 528.

RADIX perennis, tuberosa, albida, magnitudine nucis myristicæ majoris, transversa, fibras plurimas, simplices undique in terram demittente, sapore acerrimo, tuberculis e lateribus egerminantibus se propagante.

FOLIA: ex una radice duo tria vel quatuor, rarius plura exeunt, sagittata, petiolata, nitida, venosa, venis intra marginem terminatis, maculis purpureis sæpe notata.

PETIOLI basi vaginantes, subtriquetri, externe convexi, interne canaliculati.

FRUCTIFICATIO spathâ inclusa.

CALYX: Spatha monophylla, maxima, oblonga, basi convoluta, apice connivens, ventre compressa; Spadix clavatus, simplicissimus, spathâ paulo brevior, purpureus aut albidus, inferne germinibus obvallatus, marcescens supra germina, fig. 4.

COROLLA nulla.

STAMINA: FILAMENTA nulla: ANTHERÆ plurimæ, sessiles, tetragonæ, purpureæ, spadici adnatæ, fig. 1.

NECTARIA corpuscula plurima, basi crassa, desinentia in cirrhus filiformes supra et infra stamina, fig. 3.

PISTILLUM: GERMINA plurima, basin spadicis vestientia, infra stamina collocata, obovata: STYLI nulli: STIGMATA villis barbata, fig. 2.

PERICARPIUM: BACCÆ totidem, coccineæ, globosæ, uniloculares, fig. 5.

SEMINA plurima, subrotunda.

ROOT perennial, tuberous, whitish, about the size of a large nutmeg, growing transversely, sending forth on every side a great number of single fibres, of a most biting taste, propagating itself by little tubercles, springing from its side.

LEAVES: from one root two three or four, seldom more proceed, arrow-shaped, standing on foot-stalks, shining, veiny, the veins terminating within the margin, often marked with purple spots.

LEAF-STALKS at bottom forming a sheath, three-cornered, externally convex, internally channelled.

FRUCTIFICATION inclosed in a sheath.

CALYX: a sheath of one leaf, very large, oblong, the edges wrapping over each other at bottom, at top closing, the middle part compressed, the tongue club-shaped, single, shorter than the sheath, purple or of a whitish colour, below surrounded by the germina, and withering above them.

COROLLA wanting.

STAMINA: FILAMENTS wanting: ANTHERÆ numerous, sessile, four cornered, purple, grow to the tongue, fig. 1.

NECTARIES several roundish bodies, terminated by a tapering thread, placed above and beneath the stamina, fig. 3.

PISTILLUM: GERMINA numerous, surrounding the base of the spadix or tongue, of an oval shape, placed beneath the stamina: STYLES wanting: STIGMATA bearded with little hairs, fig. 2.

BERRIES corresponding in number with the germina, scarlet, round, of one cavity, fig. 5.

SEED numerous and roundish.

BOTANISTS who have noticed the history of this plant, well know that it appears under two very different forms in the spring and autumn: but the generality of people are not aware, that the naked cluster of scarlet berries, so conspicuous in the hedges at the close of the summer, is the produce of what are usually called *Lords and Ladies*, which attract the notice of children in the spring, and which are observable under most shady hedges.

The leaves of the *Cuckow-pint* are subject to vary very much in their shape, and often appear spotted with purple, as sometimes does the sheath: the tongue within the sheath varies also much in its colour, from a yellowish green to a fine purple.

All authors agree, that the root of the *Arum*, in its recent state, is extremely acrimonious; but they in general agree, that it loses its biting quality when dried, and with it its medicinal powers.

MILLER observes, that these roots are generally gathered in the spring, when the leaves are in full vigour, so that the roots shrink, and soon lose their pungent quality; but those which are taken up when the leaves decay, will continue good a whole year, and retain their pungency the same as when first taken up; *Gard. Dict.* 410. ed. 5. The same mode is recommended by BERGIUS, in his *Mat. Medic.*

When dried and powdered, they become eatable, and afford nourishment somewhat similar to fago or falep.

The distilled water of the root, as also a powder prepared by drying its juice, have been in use as cosmetics. The root also, like that of the Sopewort, has been occasionally substituted for sope; *Ray, Ratty.*

Many of the *Arums* have mild roots, which are eaten by the inhabitants of all the hot countries, where they grow naturally: and some of the sorts are cultivated by the inhabitants of the sugar colonies as esculent plants; the leaves of one of the species of them, called *Indian Kale*, are boiled, and supply the want of other greens; *Miller's Gard. Dict.*

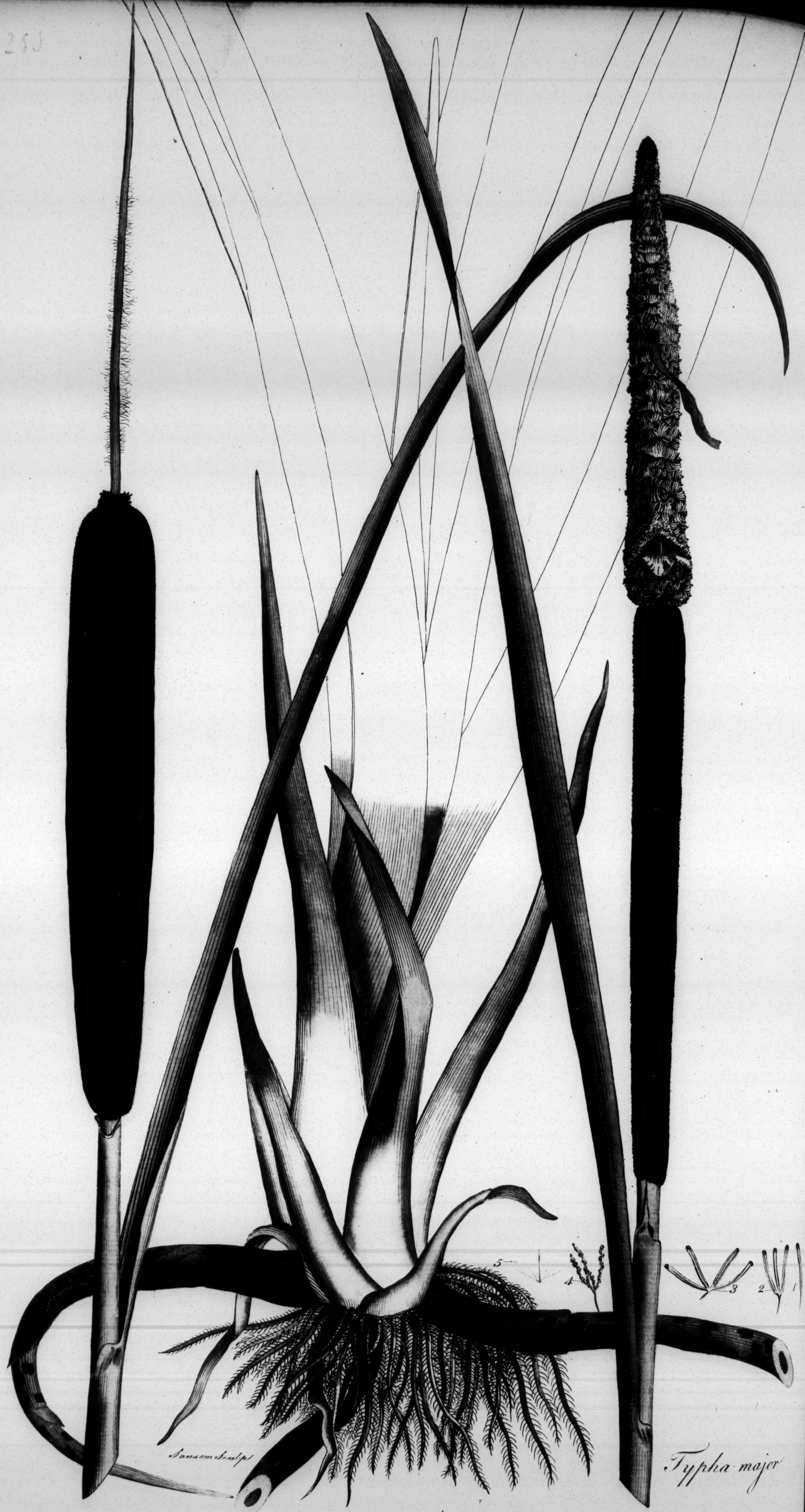
The berries are equally acrimonious with the roots; *Scopoli.*

When stimulating medicines are proper, which at the same time increase the secretions, as in some species of asthma and dropsy, the *Arum* may probably be found serviceable: at present however it is not much in use.

If my memory does not deceive me, the roots in the woods are eaten by divers Birds, notwithstanding their pungency, particularly the Pheasant.

ALBUM MUTATIONUM





TYPHA MAJOR. GREATER CATSTAIL.

TYPHA *Linnaei* Gen. Plant. MONOECIA TRIANDRIA.

MASC. Amentum cylindricum. Cal. obsoletus, 3 phyllus,
Cor. o. FEM. Amentum cylindricum, infra masculos. Cal.
capillo villoso. Cor. o. Sem. 1. infidens pappo capillari.

Raii Syn. HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

TYPHA *latifolia* foliis subensiformibus, spica mascula femineaque approximatis. *Lin. Syst. Vegetab.*
p. 702. *Sp. pl.* 1377.

TYPHA clava unica. *Haller. hist. n.* 1305.

TYPHA *latifolia*. *Scopoli Fl. Carniol.* p. 214.

TYPHA palustris major. *Bauhin.* p. 20.

TYPHA palustris maxima. *Parkinson,* 1204.

TYPHA *Ger. emac.* 46. *Raii Syn.* p. 436. Great Catstail or Reed-mace. *Hudson. Fl. Angl. ed. 2.* p. 400.
Lightfoot. Fl. Scot. 538.

RADIX perennis, repens, crassitie pollicis, articulata, spongiosa, radiculis, fibrillosis, albidis instructa, furculi albidis, teneri, in mucronem rigidam abeuntes, more tritici canini.

CULMUS tripedalis ad sexpedalem, simplex, erectus, foliosus, teres, lævis.

FOLIA alterna, erecta, tortuosa, basi subensiformia, carnosæ, superne plana, glauca, unciam fere lata, bi aut tripedalia, longissimâ vaginâ caulium involventia.

SPATHÆ duæ, deciduæ, una ad spicæ masculæ basin, altera ad ejus medium.

FLORES masculi numerosissimi in Amento erecto, culmum terminante.

CALYX, nullus.

COROLLA, nulla.

STAMINA: FILAMENTUM antequam antheræ pollinem dimittunt, brevissimum, sustinens Antheram unam ad quatuor, demisso polline pendulum, et antheris longius; ANTHERÆ oblongæ, flavæ, quadrifurcatæ, glandulâ virecente terminatæ. *fig. 1. 2. 3. 4.*

FLORES feminei numerosissimi, in amento, masculino subiecto et contiguo.

PISTILLUM: GERMEN ovatum, minimum, pedunculo brevi infidens; STYLUS superne incrassatus; STIGMA nigrum.

SEMEN minimum, pedunculatum, aristatum, pedunculo papposo. *fig. 5.*

RECEPTACULUM amenti masculi pilosum.

ROOT perennial, creeping, the thickness of one's thumb, jointed, spongy, furnished with small fibrous roots of a whitish colour, the young shoots white, tender, terminating in a sharp hard point, like that of the common couch grass.

STALK from three to six feet high, simple, upright, leafy, round and smooth.

LEAVES alternate, upright, twisted, at bottom sword shaped and fleshy, at top flat, and of a blueish colour, about an inch in breadth and two or three feet in length, inclosing the stalk in a very long sheath.

SHEATHS two, deciduous, one placed at the bottom of the male spike, the other at the middle.

FLOWERS of the male very numerous, in an upright Catkin, terminating the stalk.

CALYX wanting.

COROLLA wanting.

STAMINA: the FILAMENT before the shedding of the pollen is very short, sustaining from one to four Antheræ, the pollen being shed, they hang down and become longer than the antheræ; ANTHERÆ oblong, yellow, with four grooves, and terminated by a greenish gland. *fig. 1. 2. 3. 4.*

FLOWERS of the female extremely numerous, in a catkin placed under and contiguous to the male catkin.

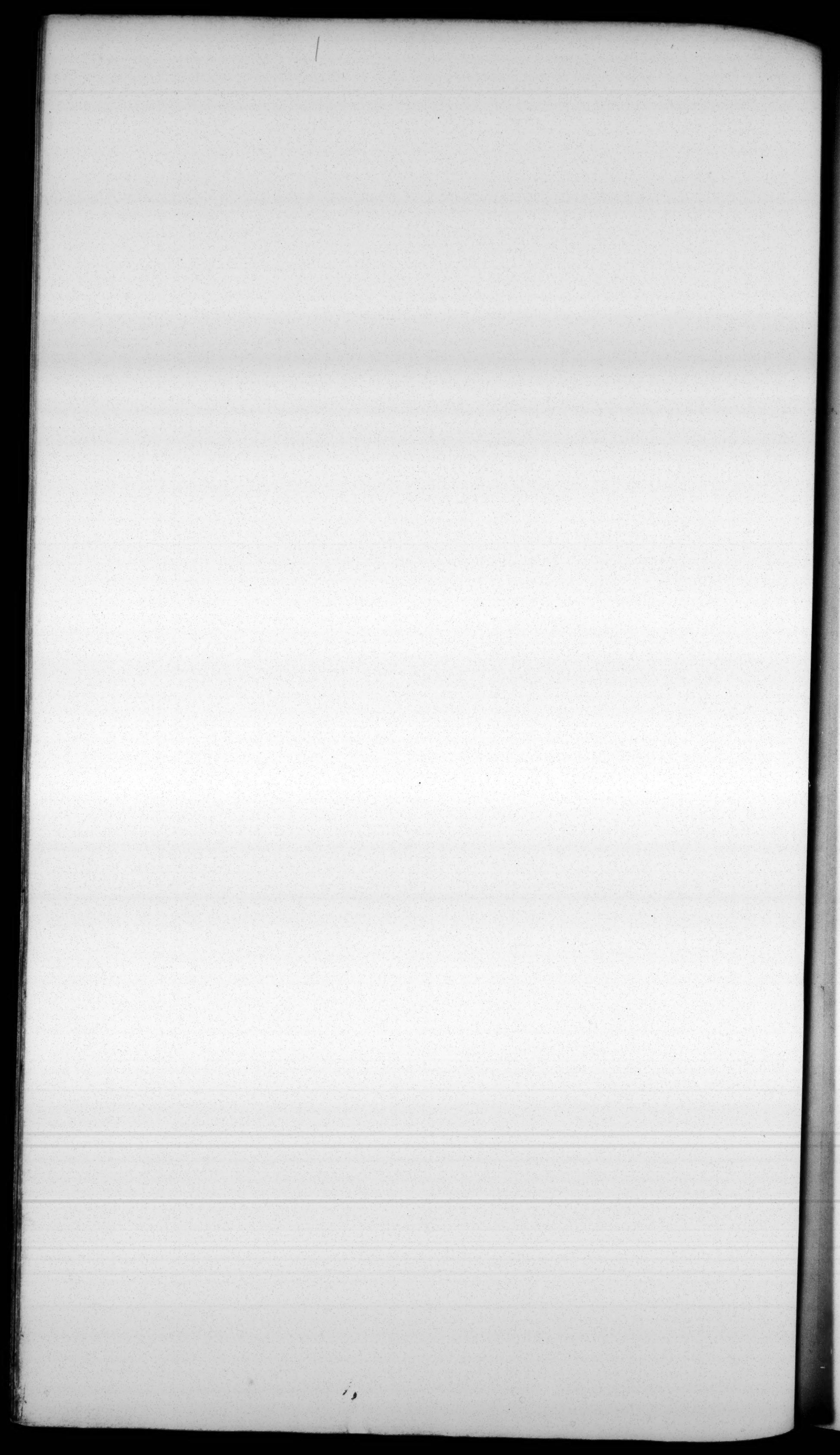
PISTILLUM: GERMEN oval, very minute, sitting on a short footstalk; STYLE thickened above; STIGMA black.

SEED very small, sitting on a footstalk, and terminated by an arista, the footstalk downy, *fig. 5.*

RECEPTACLE of the male-catkin hairy.

THE appearance of the *Typha Major*, when its spike is nearly ripe, is sufficiently striking to engage the attention even of the most incurious; it is not therefore to be wondered at, that Gentlemen, who are fond of Plants, should introduce it on the edges of their ponds, or that Painters should make it a conspicuous Plant in their representations of water; the Gentleman should however be apprized, that it has a creeping root, which encreases very much, soon chokes up a small piece of water, and overpowers other aquatics; thus difficult to keep within proper bounds, the most eligible mode of cultivating it is found to be in some border of the garden where if the soil be moist it will flourish and produce spikes more abundantly than in the water.

The







Typha minor -

The quantity of impregnating dust contained in the male spike is exceedingly great, though proportioned indeed to the astonishing number of seeds in the female spike below; if these seeds are endowed with a vegetative power, (and that they are not I cannot assert from experiment) Nature will appear to have been unusually solicitous in the preservation of this Plant; but it often happens, as elsewhere has been observed, that many of those plants which encrease very much by their roots seldom produce perfect seed, as in the Moneywort, Butterbur, Water Violet, &c. here indeed the seed appears to come to its greatest perfection; they are, it is true, exceedingly minute, but this is no argument against their growth, as the seeds of the Ferns, which are infinitely smaller, are known to vegetate, and so are those of the Mosses, which are yet smaller; for, whatever some Botanists may assert to the contrary, the fine powder contained in their capsules, is as much seed as that contained in the capsules of the Ferns.

To ascertain the fact relative to the Typha, and to learn whether it encreases in any considerable degree from the seed, I propose sticking round some pond where it is not known to grow, several spikes with the seeds just beginning to blow off, and shall relate the effects of this experiment under the *Sparganium*, or Burreed.

The parts of fructification in this plant being very minute, are with difficulty investigated. Linnæus, who examined and described them without the assistance of a magnifier, is therefore excusable, if he has not been so minutely accurate in his description of them, as he is in most others.

The Calyx which he describes does not appear to be the Calyx, but rather some of the hairs proceeding from the receptacle, and which indeed appear more evidently to be so, from the hairy appearance of the receptacle when the stamina are dropt off; on one Filament are supported one, two, three, or four Antheræ, and that indiscriminately, so that there does not appear to be any great propriety in placing it in the order Triandria, it would be much less puzzling, and perhaps more agreeable to the system, to place it in the order Polyandria, there being many stamina, and all of them united to one receptacle.

The uses to which this plant are applied are but few.

The Roots are said to be eaten as a salad. *Haller. hist. ex. auct. Gledit.*

The downy seeds serve for stuffing pillows. *Haller. hist.*

Coopers use the leaves to fasten the hoops round their casks. *Lin. ex auct. Ruppil.*

According to HALLER, cattle eat the leaves which are suspected to be poisonous by SCHREBER.

It grows in ponds, ditches, and by the sides of rivers in many places about London, and flowers in July.

TYPHA MINOR. SMALLER CATSTAIL.

TYPHA *Linnæi* Gen. Pl. MONOECIA TRIANDRIA.

MASC. Amentum cylindricum. *Cal.* obsoletus, 3
phyllus *Cor.* o. FEM. Amentum cylindricum, infra
masculos. *Cal.* capillo villosa. *Cor.* o. Sem. 1. infi-
dens pappo capillari.

Raii Syn. HERRÆ GRAMNIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

TYPHA *angustifolia* foliis femicylindricis, spica mascula femineaque remotis. *Lin. Syst. vegetab.* p. 702
Sp. pl. 1377.

TYPHA clava mascula a feminina remota. *Haller. hist.* 1306.

TYPHA *angustifolia*. *Scopoli. Fl. Carniol.* p. p. 214.

TYPHA *palustris minor*. *Baubin pin.* p. 20.

TYPHA *minor* *Parkinson*, 1204. *Raii Syn.* 436.

Hudson. Fl. Angl. ed. 2. p. 400.

THE Typha Minor is a much scarcer plant about London than the Major, from which it differs specifically in having much narrower leaves and slenderer spikes, the male spike being also distant from the female about an inch; in the structure of its parts and its general œconomy it resembles the other.

I have observed it growing near Batersa, where it is now destroyed; also on the middle of Woolwich Common, where the Botanist may probably find it a hundred years hence. It flowers at the same time as the Major.







Sparganium simplex.

SPARGANIUM SIMPLEX. SMALL BUR-REED.

SPARGANIUM *Lin. Gen. Pl.* MONOECIA TRIANDRIA.

MASC. Amentum subrotundum. *Cal.* 3-phyllus, *Cor.* 6.

FÆM. Amentum subrotundum. *Cal.* 3-phyllus. *Cor.* 6. *Stigma* 2-fidum. *Drupa* ex succa, 1-sperma.

Raii Syn. GRAMINIFOLIÆ NON CULMIFERÆ SINGULARES ET SUI GENERIS.

SPARGANIUM *Simplex* foliis basi triangularibus, lateribus planis, pedunculis simplicibus.

SPARGANIUM simplex foliis ensiformibus planis, caule simplici, *Hudson Fl. Angl.* p. 401.

SPARGANIUM *natans* foliis decumbentibus planis. *Lin. Syst. Vegetab.* p. 702. *Sp. Pl.* 1378.

SPARGANIUM non ramosum. *Bauh. Pin.* 15.

SPARGANIUM non ramosum. *Parkin.* 1205. *Raii Syn.* p. 437. n. 2, 3. Bur-reed not branched.

LINNÆUS makes only two species of the genus *Sparganium*, one of which he calls *erectum*, and the other *natans*; the former he describes as very common in ditches and fish-ponds, the latter peculiar to lakes and deep waters.

Older Botanists describe three species, the *ramosum*, the *non ramosum*, and the *minimum*; the *non ramosum* LINNÆUS considers as a variety of his *erectum*; it is this plant which we here give a figure of, from a thorough conviction of its being a species perfectly distinct from the common one, whether it differs specifically from the *natans* we do not take on us at present to determine: Mr. LIGHTFOOT, who has seen the *natans* in many places in Scotland, pronounces it a species; Mr. HUDSON, on the contrary, considers it as a variety of the present plant;—certain it is, soil and situation will occasion an amazing difference in the appearance of plants; we need only look at the *Polygonum amphibium* to be convinced of this; when it grows on land its leaves are all erect, in the water they float; the leaves of the *Festuca fluitans* float in the spring; as the summer advances they grow upright; possibly the depth and consequent coldness of the water, with other circumstances, may occasion the present plant to assume the floating appearance which authors describe:—culture, perhaps, can only decide this matter:—let the experiment turn out as it may, as there are found to be two species with erect leaves, it became necessary to alter LINNÆUS's names, which Mr. HUDSON having judiciously done we have adopted them.

We shall now point out the several characters in which the present plant has appeared to us to differ from the *ramosum*.

It differs in its place of growth,
In its size,
In the colour and shape of its leaves,
In the branchedness of its flower-stalks, and
In the colour of the male and female flowers.

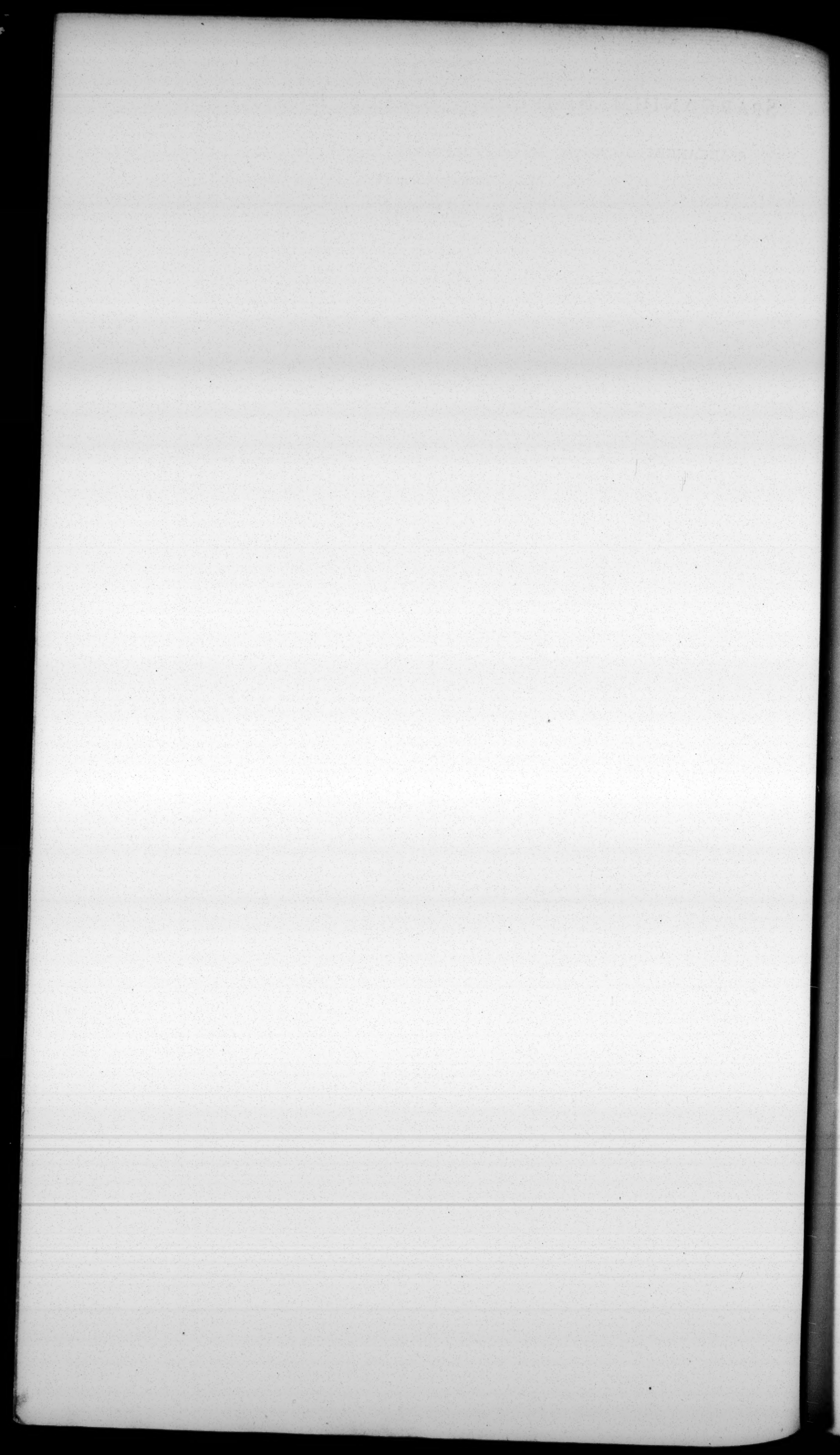
The common Bur-Reed grows in almost every ditch in the neighbourhood of London, the small one on the contrary is found only in particular spots, particularly in such pools of water as one meets with on heaths, and which are frequently made by the digging of gravel, along with the *Myriophyllum*, the *Alisma*, *Damaionium*, *Sison inundatum*, *Scirpus fluitans*, &c. It particularly abounds on Battersea Common, just before you enter Wandsworth on the left-hand side from London, and flowers during the whole of the summer.

It is seldom found more than one fourth part so high as the *Sparganium ramosum*.

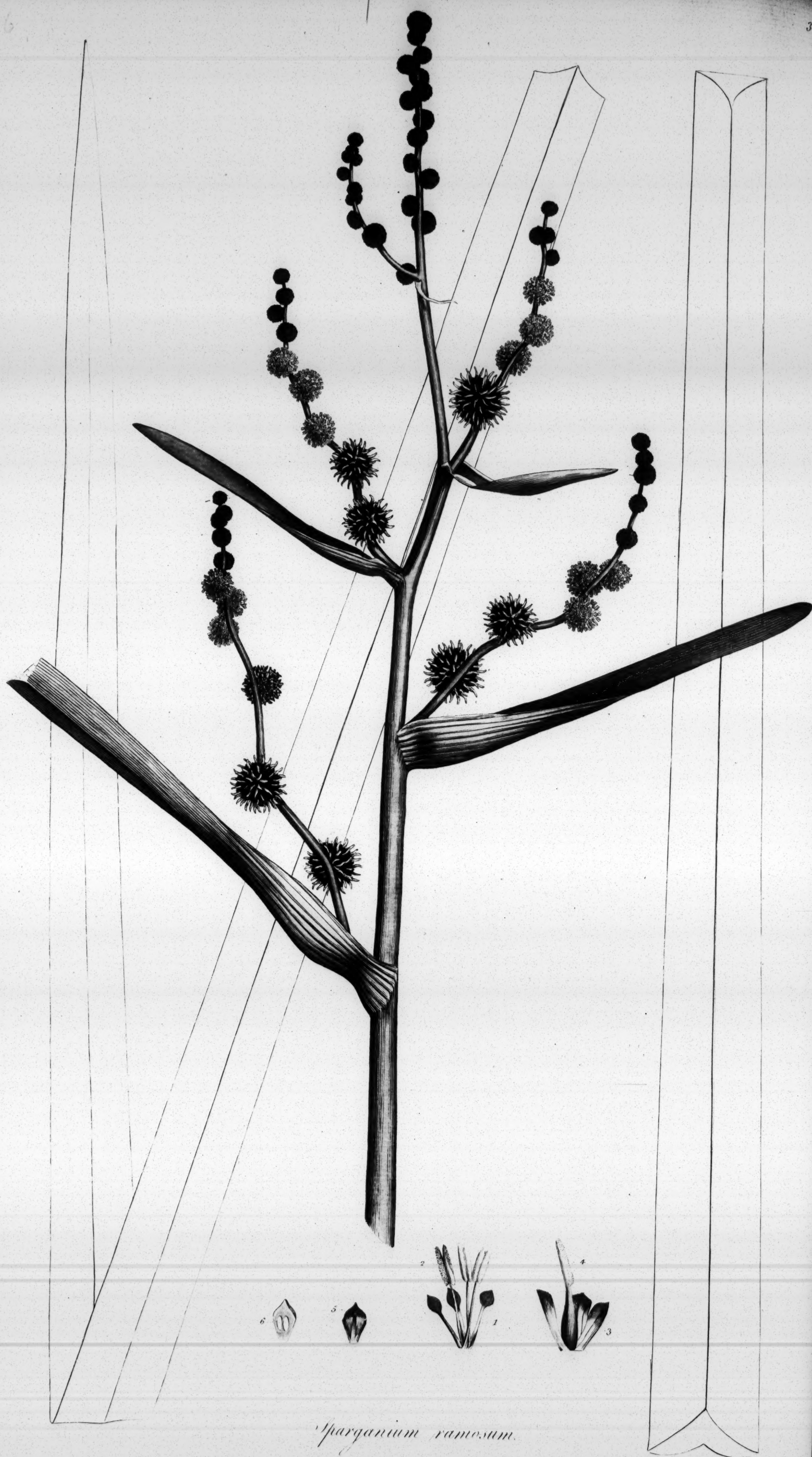
The leaves incline much more to a yellow colour, and instead of being hollow on two sides near the base, as those of the *ramosum* are, they are flat, so that a transverse section forms a triangle with nearly plain sides; we look on this as its best specific character. Such as have opportunities of observing the *natans*, will do well to observe whether its leaves are similar near the base.

Each flower-stalk supports only a single globule of male or female flowers; the lowermost which support the female flowers vary considerably in length, being sometimes more than an inch long, and at other times sessile.

The flowers before they blow look yellow, and have none of that blackness about them, so conspicuous in those of the *ramosum*: they are also larger in proportion.







Sparganium ramosum.

SPARGANIUM RAMOSUM. GREAT BUR-REED.

SPARGANIUM *Lin. Gen. Pl. MONOECIA TRIANDRIA.*

MASC. Amentum subrotundum. Cal. 3-phyllus. Cor. o.

FEM. Amentum subrotundum. Cal. 3-phyllus. Cor. o. Stigma 2-fidum. Drupa exsucca, 1-sperma.

Raii Syn. GRAMINIFOLIE NON CULMIFERÆ SINGULARES ET SUI GENERIS.

SPARGANIUM *ramosum* foliis basi triangularibus, lateribus concavis, pedunculis ramosis.

SPARGANIUM *erectum* foliis erectis triquetris. *Lin. Syst. Vegetab. p. 702. Sp. Pl. p. 1378. Fl. Suec. n. 831.*

SPARGANIUM caule foliisque erectis. *Haller hist. 1303.*

SPARGANIUM *erectum. Scopoli Fl. Carn. n. 1146.*

SPARGANIUM *ramosum. Bauh. Pin. 15. Ger. emac. 45. Parkins. 1205. Raii Syn. 437. Branched Bur-Reed. Hudson Fl. Angl. ed. 2. p. 401. Lightfoot Fl. Scot. p. 539.*

RADIX	perennis, repens, radiculis fibrillis numerosissimis instructis.	ROOT	perennial, and creeping, the small roots furnished with very numerous fibres.
CULMUS	bipedalis, tripedalis, et ultra, erectus, teres, glaber, foliosus, foliis tribus circiter, præter bractæas.	STALK	two, three feet high, or more, upright, round, smooth, leafy, leaves about three in number besides the floral leaves.
FOLIA	radicalia erecta, saturate viridia, culmo duplo fere longiora, basi vaginantia, equitantia, paulo supra basin fere ad apicem usque triquetra, latere interiore planiusculo, duobus exterioribus concavis.	LEAVES	next the root upright, of a deep green colour, almost twice the length of the stem, sheathy at bottom and riding one on the other, from the base nearly, almost to the top three-cornered, the inner side almost flat, the two outermost hollow.
BRACTEÆ	quatuor circiter, foliis caulinis subsimiles, inferioribus longioribus.	FLORAL-LEAVES	about four in number, somewhat like the leaves of the stalk, the lowermost longest.
FLORES	monoici, in capitula collecti, spicati.	FLOWERS	monoicous, formed into little heads, and growing in spikes.
PEDUNCULI	axillares, alterni, flexuosi, multiflori, capitulis sessilibus, inferioribus femineis, duobus aut tribus, superioribus masculis pluribus; pedunculi supremi flores masculos tantum gerunt.	FLOWER-STALKS	growing from the bosoms of the leaves, alternate, crooked, supporting many flowers, the little heads sessile, the lowermost ones female, two or three in number, the uppermost ones male, and more numerous; the uppermost flower-stalks bear only male flowers.
CALYX	Flor. Masc. Amentum commune, subrotundum, undique densissime imbricatum, constans Perianthiis propriis plerumque triphyllis, basi linearibus, apice ovato-acutis, deciduis, fig. 1. auct.	CALYX	of the Male Flowers. One common roundish Catkin, closely imbricated on every side, and composed of numerous individual Perianthia, consisting for the most part of three leaves, linear at the base, ovate and pointed at top, and deciduous, fig. 1. magnified.
COROLLA	nulla.	COROLLA	none.
STAMINA: FILAMENTA	plerumque tria, capillaria, longitudine calycis; ANTHERÆ oblongæ, flavæ, fig. 2.	STAMINA: FILAMENTA	usually three capillary FILAMENTS, the length of the calyx; ANTHERÆ oblong, yellow, fig. 2.
CALYX	Flor. Fem. Perianthium ut in masculino, at basi latior, magis concavus, nec deciduus, fig. 3.	CALYX	of the Female Flowers. A Perianthium as in the males, but broader at the base, more concave, and not deciduous, fig. 3.
PISTILLUM: GERMEN	oblongo-ovatum, angulatum, desinens in STYLUM brevem subulatum; STIGMA oblongum ad unum latus villosum, fig. 4.	PISTILLUM: GERMEN	oblongo-ovate, angular, terminating in a short tapering STYLE; STIGMA oblong, villous on one side, fig. 4.
PERICARPIUM: DRUPA	exsucca, turbinata cum acumine, inferne angulata, fig. 5.	SEED-VESSEL: DRUPA	a juiceless DRUPE, turban-shaped and pointed; angular below, fig. 5.
SEMEN: NUCES	duæ, ossæ, oblongo-ovatæ, fig. 6.	SEEDS: NUTS	two bony NUTS, of an oblong ovate shape, fig. 6.

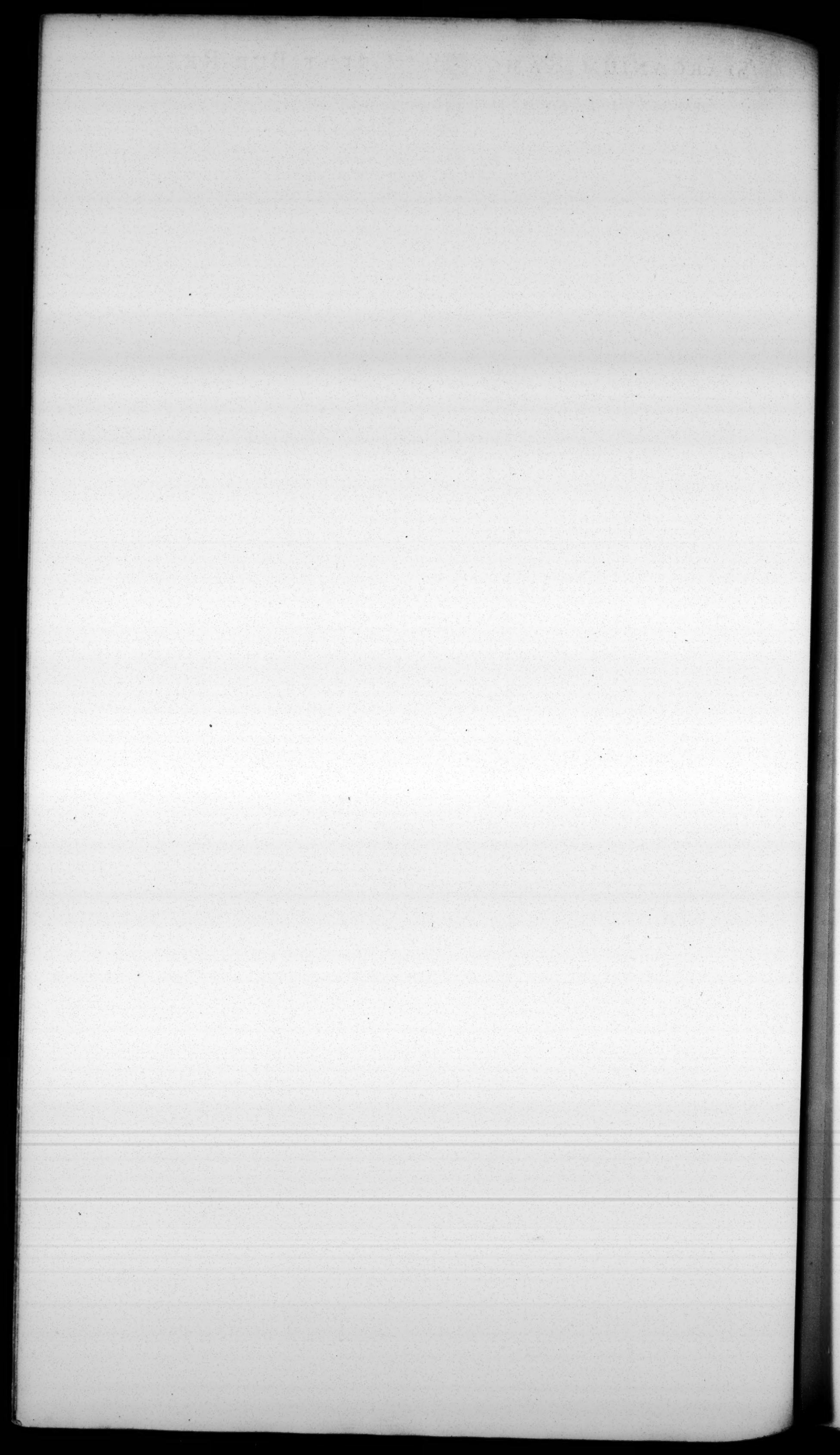
The *Sparganium ramosum* having a very strong creeping root, is one of those plants which very soon fill up a ditch or piece of water, if suffered to remain unmolested; we have not seen it more plentiful any where than in the Isle of Dogs, the ditches of which are full of it.

We know of no use to which it is applicable.

The stalk is liable to be eaten by some kind of larva whose history we have not yet discovered, the leaves by the larva of a *Tenthredo* unknown to us, as well as by the larva of the *Phalæna Festuæ*—two of which in their Chrysalis state, we this year, August 24, 1786, found in a web under the leaves of the plant, in a pond near Malden in Essex; and on the leaves of the same plant, at the same time and place, Dr. GOODENOUGH and myself were so fortunate as to find two specimens of that rare insect the *Sphex fissipes* Linnæi.

The male flowers vary much in the number of their stamina, and both sorts in the number of the leaves of the calyx.

In treating of the *Typha latifolia*, we promised, when we gave a figure of this plant, to inform our readers whether its seeds vegetated: we have since then had an opportunity of observing one of its heads, as it lay in a wet situation, assume a green colour, which, on a careful examination, it was found to owe to the seeds having just begun to vegetate.





*Carex pendula*

CAREX PENDULA. PENDULOUS CAREX.

CAREX *Lin. Gen. Pl.* MONOECIA TRIANDRIA.

MASC. 1 phyllus. Cor. o. FEM. Amentum imbricatum. Cal. 1 phyllus. Cor. o. Nectarium inflatum, 3 dentatum. Germen triquetrum, intra nectarium.

Raii. Syn. Gen. 28 HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ IMPERFECTO SEU STAMINEO.

CAREX spicis femininis pendulis longissimis, capsulis mucronatis ovatis. *Haller. hist.* 1396.

CAREX *pendula*, spicis subseffilibus pendulis, mascula erecta, femineis cylindricis longissimis, capsulis subrotundis acuminatis. *Hudson. Fl. Angl. ed. 2 p.* 411.

GRAMEN spica pendula longiore et angustiore *B. pin.* 6. *Pr.* 13. *J. B.* 11. 497.

GRAMEN cyperoides spica pendula longiore. *Parkins.* 1267. *Raii. Syn. p.* 420. Many-spiked Cyperus-grafs with long pendulous heads.

RADIX perennis, non vero repens.

CULMUS tripedalis, ad orgyalem in solo lætiori etiam accedit, triquetus, levis, superne striatus, foliosus.

FOLIA femunciam lata, viridia absque ullâ glaucescencia, oris nervisque subasperis, minute ferrulatis, minus vero quam in multis aliis hujusce generis.

SPICÆ: omnes pendulæ, suprema e floribus masculis omnino composita, crassa, basi tenuior, secunda et tertia femineæ apice incrassatæ, ubi androgynæ, inferiores femineæ, lineares, longissimæ.

Flores masculi.

SQUAMÆ ovato-lanceolatæ, acuminatæ, e fusco purpurascentes, concavæ, trinerves. *fig.* 1.

STAMINA: FILAMENTA tria, capillaria, demisso poline longitudine squamarum; ANTHERÆ lineares, quadrifidatæ, flavæ. *fig.* 2. 3. 4.

Flores feminei.

SQUAMÆ ut in masculo. *fig.* 5.

NECTARIUM inflatum, ovato oblongum, glabrum, collo contracto. *fig.* 6.

PISTILLUM: GERMEN triquetrum, intra Nectarium; STYLUS brevissimus; STIGMATA tria, filiformia, pubescentia. *fig.* 7. 8.

SEMEN unicum, ovato acutum, triquetrum.

ROOT perennial, but not creeping.

STALK three feet high, in a rich soil growing even to the height of six feet, three cornered, smooth, at top striated, leafy.

LEAVES half an inch broad, green without any glaucous appearance, somewhat rough from being finely sawed, but much less so than many others of this genus.

SPIKES: all of them pendulous, the uppermost composed entirely of male flowers, thick, but slender at its base, the second and third female, thick at top, with a mixture of male and female flowers, the lower ones female, linear, and very long.

Flowers of the male.

SCALES narrow-oval, running out to a long point, of a brownish purple colour, hollow, with three ribs. *fig.* 1.

STAMINA: three FILAMENTS very fine, on the shedding of the pollen becoming as long as the scales; ANTHERÆ linear with four grooves, and of a yellow colour. *fig.* 2. 3. 4.

Flowers of the female.

SCALES as in the male. *fig.* 5.

NECTARY inflated, of an oval oblong shape, smooth, the neck contracted. *fig.* 6.

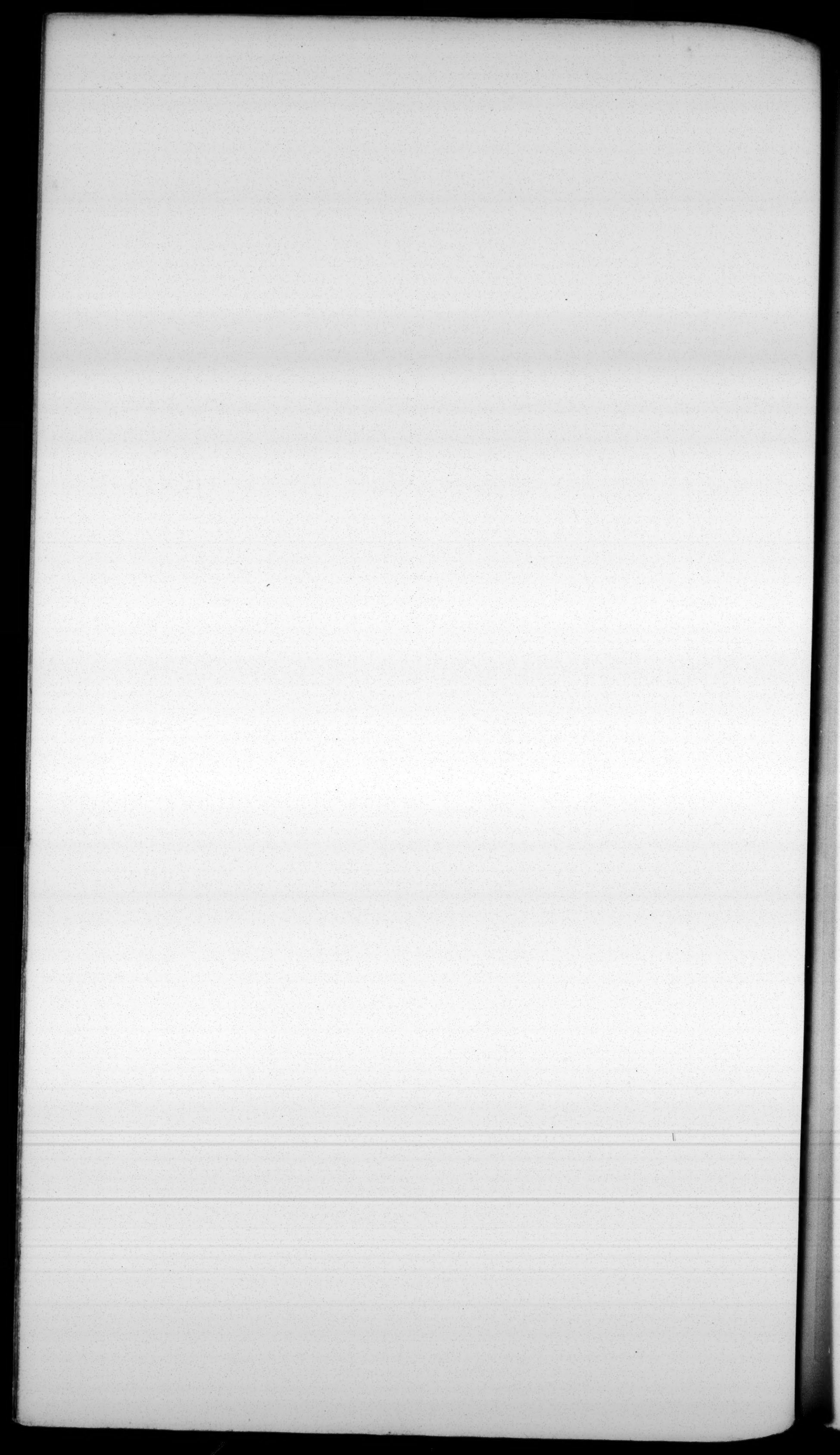
PISTILLUM: GERMEN three cornered, within the Nectary; STYLE very short; STIGMATA three, thread-shaped, and downy. *fig.* 7. 8.

SEED single, oval pointed, and three cornered.

We have here given for the first, a figure and description of the *Carex pendula*, one of a numerous tribe of plants, distinguished not less by the singularity of their fructification, than the difficulty which attends an investigation of their several species, from this difficulty the present plant may however claim a total exemption, for in whatever situation it is found, its long, pendulous, female spikes at once distinguish it, these when young are very slender, as the seeds ripen they become much thicker and cylindrical.

This elegant species is found in great abundance in the moist hedges about *Hamstead* and *Highbate*, flowering in May and ripening its seeds in June.

It is not applied so far as our knowledge at present extends to any particular purposes.







Carex riparia.

CAREX RIPARIA.

GREAT OR COMMON CAREX.

CAREX Lin. Gen. Pl. MONOECIA TRIANDRIA.

MASC. Amentum imbricatum. Cal. 1. phyllus. Cor. 8.

FEM. Amentum imbricatum. Cal. 1. phyllus. Cor. 0. Nectarium inflatum, 3. dentatum. Stigm. 3.

SEM. Triquetrum, intra nectarium.

Raii Synop. Gen. 28. HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

CAREX riparia spicis masculis pluribus triquetris nigricantibus, acutis, squamis aristato acuminatis, capsulis subinflatis, bicornibus.

CAREX acuta spicis masculis pluribus, femineis subpedunculatis, erectis, capsulis ovato-lanceolatis aristato-acuminatis furcatis. Hudson Fl. Angl. p. 413.

CAREX spicis masculis ternis, femineis numerosis, erectis, brevissime petiolatis, capsulis bicornibus. Haller, hist. n. 1404. et forsan 1398 et 1399.

CAREX acuta. Lightfoot, Fl. Scot. p. 565.

GRAMEN cyperoides cum paniculis nigris. J. B. 2. 494. Raii Hist. 1292.

GRAMEN cyperoides latifolium spica rufa five caule triangulo. Baub. Pin. 6.

GRAMEN cyperoides. Ger. emac. 12.

GRAMEN cyperoides majus latifolium. Park. 1265.

Raii Syn. 417. Great vernal Cyperus-grass.

CYPEROIDES aquaticum, maximum, foliis vix unciam latis, caule exquisitè triangulari, spicis habitioribus, erectis, squamis in aristam longius productis, capsulis oblongis, bifidis. Michel. Nov. Gen. Tab. 32. fig. 7. et 6.

RADIX perennis, repens.

CULMUS in aquosis bi seu tripedalis, foliosus, nodosus, striatus, triquetus, angulis acutis, asperis.

FOLIA semunciam lata, glauca, carinata, ad margines carinamque aspera, vaginantia, vagina una cum inferiore parte folii pulchre reticulata.

SPICÆ masculæ et femineæ distinctæ, masculæ, plerumque, tres, ad quinque, erectæ, nigricantes, triquetræ, acutæ, congestæ, bractæatæ, suprema biunciali, inferioribus brevioribus inæqualibus, femineæ tot quot masculæ, ovato-acutæ, pedunculatæ, plerumque erectæ, aliquando etiam pendulæ, supremis sessilibus, androgynis.

FLOS MASC.

CALYX: Squamæ plurimæ, imbricatæ, lanceolatæ, aristato-acuminatæ, e nigro purpurascens. fig. 1.

STAMINA: FILAMENTA tria, filiformia, alba; ANTHERÆ tenues, luteæ, mucronatæ. fig. 2.

FLOS FEM.

CALYX: Squamæ ut in masc. inferne vero latiores et superne magis luculenter aristatæ, aristâ ferrulatâ. fig. 3.

NECTARIUM germen continens, ovatum, glabrum, bicornis. fig. 4. auct. demum inflatum, acuminatum, striatum, fuscum. fig. 6. magn. natur.

PISTILLUM: GERMEN parvum, ovatum, glabrum; STYLUS filiformis, nudus, nectario paulo longior; STIGMATA tria, villosa, alba, subulata. fig. 5. auct.

SEMEN unicum, triquetrum, intra Nectarium. fig. 7. magn. nat.

ROOT perennial and creeping.

STALK in wet situations two or three feet high, leafy, jointed, striated, the angles sharp and rough.

LEAVES half an inch broad, glaucous, keeled, the keel as well as the edges rough, sheathing the stalk, the sheath, together with the lower part of the leaf, beautifully reticulated.

SPIKES of the male and female distinct, those of the male generally from three to five, upright, blackish, three-cornered, pointed, clustered and furnished with floral leaves, the uppermost about two inches in length, the lowermost shorter and unequal; female spikes as numerous as those of the male, ovate, pointed, standing on footstalks, generally upright, but sometimes pendulous, the uppermost sessile and androgynous.

MALE FLOWER.

CALYX: Scales numerous, imbricated, lanceolate, running out to a long beard-like point, of a purplish black colour, fig. 1.

STAMINA: three FILAMENTS, thread-shaped and white; ANTHERÆ slender, yellow, and terminated by a short point. fig. 2.

FEM. FLOWER.

CALYX: Scales as in the male, but broader below, and more evidently bearded above, the awn finely sawed or toothed, fig. 3.

NECTARY containing the germen, ovate, smooth, with two horns, fig. 4. magn. finally inflated, pointed, striated, and of a brown colour. fig. 6. nat. size.

PISTILLUM: GERMEN small, ovate, smooth; STYLE filiform, naked, a little longer than the nectary; STIGMATA three, villous, white and tapering. fig. 5 magnif.

SEED single, three-cornered, inclosed in the Nectary, fig. 7. nat. size.

In a former number of this work we gave a figure and description of the *Carex pendula*, one of the largest, as well as most distinct species of this genus; we here present our readers with three more of this numerous and difficult tribe. Our motive for publishing them in the same number is, that they may the more readily be compared together, and their several distinguishing characters be more forcibly impressed.

In herborizing it is a practice with me to endeavour at acquiring a perfect knowledge of every plant which occurs in all its possible varieties; the greater the difficulty I find in the attempt, the more minute is my enquiry. These investigations have to my great satisfaction often terminated in some new discovery, which has placed the plant in a more conspicuous light than before; such has been the happy result in the present instance. In passing through *Battersea meadows* I had frequently noticed the three Carices here figured, which I was taught to consider as the same species, varying only from particular circumstances, but so great was the variation, that I never could perfectly reconcile myself to the idea. I shall here relate the several characters which struck me first, and gave me the idea of their being different. It was the pointed, triangular, black heads or male spikes of the *riparia*, the bluntness not only of the





CAREX ACUTA. ACUTE CAREX.

CAREX *acuta* spicis masculis pluribus, obtusis, squamis obtusiusculis, caule acutangulo.
 CAREX *acuta* spicis masculis pluribus, femineis subsefilibus, capsulis obtusiusculis. *Lin. Syst. Vegetab.*
 p. 706. *Sp. Pl.* p. 1388 *Fl. Suec.* n. 857.
 CAREX *glauca* Scopoli *Fl. Carn.* n. 1157 ?
 CYPEROIDES foliis Caryophylleis, caule exquisitè triangulari, spicis habitioribus, squamis curtis, obtusè
 mucronatis, capsulis tarbinatis, brevibus, confertis. *Michel Nov. Gen.* p. 62. tab. 32. f. 12.
 GRAMEN cyperoides foliis caryophylleis vulgatissimum. *Rail Hist.* 1292.
 CAREX *caespitosa* var β . *Lightfoot Fl. Scot.* ?

RADIX perennis, repens.

CULMUS in aquosis, bipedalis et ultra, foliosus, nodosus, striatus, triqueter, angulis acutis, asperis.

FOLIA tres lineas lata, glauca, carinata, ad margines carinamque aspera

SPICÆ masculæ et femineæ distinctæ, masculæ plerumque tres, erectæ, remotiusculæ, oblongæ, obtusæ, e purpureo-nigræ seu fuscæ, suprema fescunciali, inferioribus brevioribus, inæqualibus, bracteata, bractea inferiore spicis brevior: femineæ duæ, vel tres, longiores, et graciliores, pedunculatæ, plerumque erectæ, apicibus sæpe masculis.

FLOS MASC.

SQUAMÆ plurimæ, arcte imbricatæ, ovato-oblongæ, obtusæ, e fusco-purpureæ, nervo medio virecente. fig. 1.

STAMINA: FILAMENTA tria, filiformia, alba; ANTHERÆ luteæ. fig. 2.

FLOS FEM.

SQUAMÆ ovato-acuminatæ, superne ad lentem denticulis ciliatæ, fig. 3.

NECTARIUM ovatum, glabrum, ore sæpius bidentato. fig. 4.

PISTILLUM: GERMEN parvum, intra nectarium; STYLUS nectario paulo longior; STIGMATA tria, patentia. fig. 5.

SEMEN triquetrum, fig. 8. 9. intra nectarium bidentatum. fig. 6. 7.

ROOT perennial, and creeping.

STALK in wet situations, two feet high, and upwards, leafy, jointed, striated, three cornered, the angles sharp, and rough.

LEAVES, three lines in breadth, glaucous, keeled, the edges and keel rough.

SPIKES, male and female, distinct; male spikes generally three, upright, at a little distance from each other, oblong, obtuse, of a purplish, black, or brown colour, the uppermost an inch and a half in length, the lower ones shorter and unequal, furnished with floral leaves of which the lowermost is shorter than the spikes; female spikes two or three, longer and slenderer than the male, standing on footstalks, for the most part upright, the tips frequently male.

MALE FLOWER.

SCALES, numerous, closely imbricated, of an ovate oblong shape, obtuse, of a brownish purple colour, the midrib greenish, fig. 1.

STAMINA: Three FILAMENTS, filiform, and white; ANTHERÆ, yellow, fig. 2.

FEMALE FLOWER.

SCALES ovate, and pointed, the upper part when magnified edged with fine teeth, fig. 3.

NECTARY ovate, smooth, the mouth most commonly having two teeth, fig. 4.

PISTILLUM: GERMEN small, within the nectary; STYLE a little longer than the nectary; STIGMATA three, spreading, fig. 5.

SEED three cornered, fig. 8. 9. contained within a nectary having two teeth, fig. 6. 7.

the spikes themselves, but of the scales composing the male spikes of the *acuta*, and the narrow leaves and slender appearance of the spikes in the *gracilis*, joined to the want of that glaucous hue in the leaves, so conspicuous in those of the two former; impressed with these general appearances, I carried home their roots, and planted them in my garden, and found at the expiration of two years that they still kept up the same appearances. I then attended more minutely to their parts of fructification, and found sufficient to convince me, and I trust every unprejudiced person; that they are three species immutably distinct.

The largest and perhaps the most generally common of the three is our *riparia*, which we have distinguished by that name, from its being found on the edges of rivers, it will also grow in the middle of a ditch or pond, and if suffered to encrease will quickly fill up any piece of water, being in this respect almost equal to the *Poa aquatica*, and *Typba latifolia*; it also, by means of its powerfully creeping roots, easily makes its way through any moorish ground, and hence is often found in meadows themselves, and though much smaller in such situations, its striking characters are equally distinct. Where it grows luxuriantly, its spikes, especially the lowermost of the female ones, frequently become branched, which gives them a very outré appearance, that may puzzle for a moment: as the male spikes on their first appearance are so easily distinguished by their pointed and angular appearance, so the female spikes, when nearly ripe, are distinguished from the two others by having large, somewhat inflated, and pointed capsules, slightly bifid at the extremity.

The synonyms of this and the two other species are so confounded together, that to trace them through all the writers that have written on the subject would be an endless task, it will be sufficient therefore to have quoted a few which may be depended on.

The *Acuta* is next in size, at least with respect to the breadth of its leaves, to the *Riparia*, and is found in situations exactly similar, indeed they very frequently grow together, and, from the great similarity of their foliage, may easily be confounded; when young, the bluntness of its male spikes and obtuseness of their Squamæ, so as totally to want any kind of Arista, invariably distinguishes it from the *Riparia*, and though there is frequently a tendency in these spikes to be three-cornered, yet the angles are always very obtuse, to which we may add that the colour of them before the Antheræ come forth is much brighter, and sometimes a spike is found perfectly brilliant; the female spikes, as well as those of the male, are fewer in number, as well as smaller; nor have they that tendency to be pendulous which those of the *Riparia* frequently have, the Capsules when ripe are also much smaller, more numerous, and no ways inflated, but very similar to those of the *gracilis*; we may further remark, that while the Squamæ in the male Spikes before the bursting forth of the Antheræ are invariably obtuse, those of the female spikes are pointed, and that while this plant in its strong state may easily be mistaken for the *Riparia*, in its weak state it approaches very near the *recurva*, which also is a species perfectly distinct.







Carex gracilis.

CAREX GRACILIS. SLENDER SPIKED CAREX.

CAREX *gracilis* spicis masculis et femineis pluribus, subuliformibus, floribus digynis.

CAREX nigra verna vulgaris. *Lin. Fl. Lap.* 330.?

CYPEROIDES angustifolium. caule exquisitè triangulari, aspero, spicis floriferis prælongis, tenuioribus, feminalibus autem spicis biuncialibus, et habitioribus, erectis, squamis brevibus acutis, capsulis spadiceo viridibus, rhomboideis, subtriquetris. *Micheli Nov. Gen.* p. 60. n. 40.

GRAMEN cyperoides majus angustifolium. *Park.* 1265. *Rail b. fl.* 1293. *Syn.* p. 417. n. 2. Great narrow-leaved vernal Cyperus-grass.

RADIX perennis, repens.

CULMUS in aquosis bi seu tripedalis, in pratis humilior, foliosus, nodosus, triquetus, angulis acutis, asperimis.

FOLIA radicalia longa, viridia, vix glauca, lineas duas lata, ad margines et carinam aspera, vaginantia, *bractealia* lineam cum dimidia lata, inferiore (florente planta) spicis longiore.

SPICÆ masculæ et femineæ distinctæ, masculæ plerumque tres, e fusco nigricantes, graciles, obsolete triquetrae, nutantes, terminalis biuncialis, inferior duplo aut triplo brevior, infima sæpius androgyna, longior, femineæ tres aut quatuor, teretes, graciles, longitudine masculi terminalis, sessiles seu breviter pedunculatæ, suberecti, nigricantes.

MAS.

SQUAMÆ ovato-acutæ, arcu imbricatæ, carinatæ, e purpureo nigricantes, carina, subviridi. *fig. 1. auct.*

STAMINA: FILAMENTA tria, capillaria, alba; ANTHERÆ lineares, flavæ, *fig. 2.*

FEM.

SQUAMÆ masc. similes, magis vero oblongæ ac obtusæ. *fig. 3.*

NECTARIUM oblongum, glabrum, ore integro; GERMEN minimum; STYLUS nectario longior; STIGMATA duo, villosa, *fig. 4. 5.*

SEMEN triquetrum, minimum, intra nectarium. *fig. 6.*

ROOT perennial and creeping.

STALK, in watery situations two or three feet high, in meadows not so tall, leafy, jointed, three cornered, the angles sharp and very rough to the touch.

LEAVES from the root long, of a green colour, scarcely glaucous, two lines in breadth, on the edges and midrib rough, sheathing the stalk, *bracteal* leaves a line and a half in breadth, the lowermost, while the plant is in flower, longer than the spikes.

SPIKES, both male and female, growing distinctly, the male generally three in number, of a brownish black colour, slender, faintly three cornered, drooping, the terminal spike about two inches in length, the next below twice or thrice as short, the lowermost for the most part androgynous and longer, female three or four, round, slender, length of the terminal male spike, sessile or standing on short footstalks, nearly upright and blackish.

MALE.

SCALES ovate, pointed, lying closely one over another, keeled, of purplish black colour, the keel greenish, *fig. 1. magnif.*

STAMINA: three FILAMENT, slender and white; ANTHERÆ linear and yellow, *fig. 2.*

SCALES as in the male, but more oblong and blunter, *fig. 3.*

NECTARY. oblong, smooth, the mouth entire; GERMEN very small; STYLE longer than the Nectary; STIGMATA, two, villous, *fig. 4. 5.*

SEED, three-cornered, very minute, within the nectary, *fig. 6.*

If the season be mild, this plant and the Riparia flower in April, and ripen their seeds in June and July.

The *gracilis*, though a slenderer plant both in stalks, leaves, and spikes, is equal in height where it grows in similar situations to either of the other two, but as this has a greater tendency at least in Battersea Meadows to grow among the herbage, it is frequently found shorter, and sometimes large patches of its foliage are visible without any flowering spikes.

This species is distinguished from the other two, not only by having narrower leaves, which want the glaucous colour of the other two, and slenderer spikes, which in their young state are remarkably pendulous, so as at first sight to give this plant an appearance of the *Carex pendula*, but the female flowers are constantly and invariably digynous. My most obliging friend Dr. GOODENOUGH, to whom I had communicated my thoughts on this subject, examining these plants with his usual accuracy, anticipated me in the discovery of this most important, most necessary character; a character which in a moment decidedly distinguishes betwixt two plants, which without it would for ever have been liable to be confounded.

We should have been inclined to suppose that our *gracilis* was the *acuta* of LINNÆUS, had he not quoted MICHELI's figure, to which he adds the epithet *bona*, that figure is a tolerable representation of our *acuta*, but the spikes are far too thick for those of the *gracilis*.

This species, which is equally common with the two others, flowers a week or two later.

Agriculturally considered, it is perhaps doubtful, whether we are to rank the Carices with the useful or the noxious plants; from what we have hitherto observed, we should rather class them with the latter, not but we think the *Junci*, *Scirpi*, &c. infinitely more injurious, yet still they occupy the room of better grasses; their principal merit is, that they afford early pasturage, yet their foliage is harsh and rough, and productive of indifferent hay; and such is the opinion of LINNÆUS, who, in his *Flora Lappæ*, remarks that the Husbandman is not fond of such meadows as are overrun with Carices, as they afford bad fodder and unprofitable pasturage "nec pinguescat bos carice pascuus *acuta*; unfortunately, however, when the present species, or such as have similar creeping roots, have once got possession of the soil, they are the most difficult plants possible to eradicate.

As articles of rural œconomy, they are in many instances highly useful; in Hampshire, Surry, and perhaps other hop counties, the leaves of these three species are used indiscriminately under the name of *Sedge*, for tying the young hop plants to the poles. MICHELI informs us, that in Italy they are used to cover their wine flasks, to make the common sort of chair bottoms, and that the Coopers in making tubs, &c. place them betwixt the staves to make them water-tight: to the comfort of the Laplander, they contribute in a high degree by defending him from the severity

verity of the weather; this is so particularly described by LINNÆUS in his *Flor. Lapon.* that we shall translate it for such of our readers as may not have an opportunity of consulting the original, now become very scarce.

“Thou wilt wonder, perhaps, curious reader, in what manner human beings are capable of preserving life during the intense severity of a winter’s frost in Lapland, a part of the world deserted on the approach of winter by almost every kind of bird and beast.

“The inhabitants of this inhospitable climate are obliged to wander with their Rhendeer flocks continually in the woods; not only in the day-time, but through the longest winter nights, their cattle are never housed, nor do they eat any other food than Liverwort, hence the herdsmen; to secure them from wild beasts, and other accidents, are of necessity kept perpetually with them. The darkness of their nights is in a great degree overcome and rendered more tolerable by the light of the stars reflected from the snow, and the Aurora Borealis, which in a thousand fantastic forms nightly illumines their hemisphere. The cold is intense, sufficient to frighten and drive us foreigners from their happy woods. No part of our bodies are so liable to be destroyed by cold as the extremities, which are situated farthest from the heart; the chilblains of the hands and feet, so frequent with us in Sweden, sufficiently indicate this. In no part of Lapland do we find the inhabitants affected with chilblains, though in respect to country one would expect them to be peculiarly subject to this disease, especially as they wear no stockings, while we cloath ourselves in one, two, and even three pair.

“A Laplander preserves himself from the violence of cold in the following manner; he wears breeches, or rather trowsers made of the rough skin of the Rhendeer, which reach to his ankles, and shoes made of the same material, the hair turned outward; this grass, cut down in the summer, dried, rubbed betwixt the hands, and afterwards combed or carded, he puts into his shoes, so as not only wholly to enwrap his feet but the lower part of his legs also, which, thus defended, never suffer from the severest cold; with this grass he also fills his hairy gloves to preserve his hands, and thus are those hardy people enabled to bear the frost.

“As this grass in the winter drives away cold, so in the summer it checks the perspiration of the feet, and preserves them from being injured by stones, &c. in travelling, for their shoes are extremely thin, being made of untanned skins. It is difficult to learn, on enquiry, what the particular species of grass is which is thus in request with these people, as some use one sort, some another. It is, however, always some species of *Carex*, and we understood chiefly this.”

It is no less difficult to understand what species LINNÆUS himself means: he quotes *Morison’s* figure, which is our *sylvatica*; yet, says that the *Carex* grows in *paludibus limo plenis*, which that plant never does with us, it is most likely, in our opinion, to be one or all of the three common species here figured.





Carex ventricosa

J. Edwards del.

J. Smith sculp.

CAREX VENTRICOSA. TURGID CAREX.

CAREX. *Linn. Gen. Pl.* MONOECIA TRIANDRIA.

Masc. *Amentum* imbricatum. *Cal.* monophyllus. *Cor.* o.

Fem. *Amentum* imbricatum. *Cal.* monophyllus. *Cor.* o. *Nectarium* inflatum tridentatum. *Stigmata* tria. *Sem.* triquetrum intra nectarium.

Raii Syn. Gen. 28. HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

CAREX *ventricosa*, spicis pedunculatis erectis, mascula solitaria, femineis remotis paucifloris, capsulis turgidis rostratis.

CYPEROIDES nemorosum, caule exquisitè triangulari, spicis parvis strigosis, inter se distantibus, squamis latis, derepentè in aristam longiusculam attenuatis, capsulis rariùs dispositis turbinatis gibbis trilateris cum rostrulo adunco. *Michel. Nov. Gen.* p. 61. tab. 32. fig. 5.

RADIX perennis, fibrosa.

CULMUS pedalis ad sesquipedalem, erectus, foliosus, triquetus.

FOLIA patulo-erecta, lineas duas lata, carinata, lævia, margine aspera, basi vaginantia, sub florescentia culmo longiora.

FLOS MASCULUS.

SPICA terminalis, solitaria, subuncialis, erecta, multiflora, ebracteata, subfusca.

CALYX: SQUAMA subovata, acuminata, dorso viridi, lateribus ex albo et fusco variegatis, fig. 1.

STAMINA: FILAMENTA tria, capillaria, calyce longiora. ANTHERÆ longæ, lineares, fig. 2.

FLOS FEMINEUS.

SPICÆ plerumque tres, remotiusculæ, spica mascula dimidio breviores, oblongo-ovatae, subquadri-floræ, pedunculatae, bracteatae. PEDUNCULI compressi, superne incrassati. BRACTEÆ foliis similes, culmum superantes.

CALYX: SQUAMA lanceolata, acuta, dorso viridi, lateribus albis nitentibus, fig. 3.

NECTARIUM oblongum, extus convexum, intus concavum, rostratum, pistillum arcte cingens, fig. 4.

PISTILLUM: GERMEN obovatum intra nectarium, fig. 5. STYLUS germine duplo longior, fig. 6. STIGMATA tria, patentia villosa, fig. 7.

PERICARPIUM: CAPSULA triquetra-gibba, turgida, striata, utrinque acuta, rostro apice membranaceo, fig. 8.

SEMINA solitaria, magna, hinc convexa, inde planiuscula, fig. 9. intra nectarium.

ROOT perennial and fibrous.

STALK from a foot to a foot and a half high, upright, leafy, and three-cornered.

LEAVES upright, somewhat spreading, two lines wide, keeled, smooth, rough on the edge, sheathing at the base, higher than the stalk, when the plant flowers.

MALE FLOWER.

SPIKE terminal, solitary, about an inch long, upright, many-flowered, without a bractea, brownish.

CALYX: SCALE somewhat ovate, acuminate, green at the back, the sides variegated with white and brown, fig. 1.

STAMINA: three FILAMENTS, capillary, longer than the calyx. ANTHERÆ long, linear, fig. 2.

FEMALE FLOWER.

SPIKES mostly three, remote, half the length of the male one, oblongo-ovate, mostly four-flowered, standing on flower-stalks, and furnished with bracteæ. FLOWER-STALKS compressed, thickened above. BRACTEÆ resembling the leaves, higher than the stalk.

CALYX: SCALE lanceolate, acute, green at the back, the sides white, shining, fig. 3.

NECTARY: oblong, the outside convex, the inside concave, closely surrounding the pistillum, fig. 4.

PISTILLUM: GERMEN obovate, within the nectary, fig. 5. STYLE double the length of the germen, fig. 6. STIGMATA three, spreading, villous, fig. 7.

PERICARPIUM: a CAPSULE three-cornered, gibbous, striated, turgid, pointed at both ends, with a beak membranaceous at the point, fig. 8.

SEEDS single, large, convex on one side, flattish on the other, fig. 9. within the nectary.

My much-valued friend, the Rev. Dr. GOODENOUGH of Ealing, has the merit of discovering the Carex here figured; we were herbarizing together, in company with the Rev. Dr. WHITFIELD, in a small wood at the back of Charlton Church, when a single plant of it first caught his eye, and on further search we found it in one part of the wood in abundance; Mr. DICKSON informs me that he has observed the same species growing wild near Godalming, Surrey; and we are informed that it has also been found by Mr. SOLE, of Bath.

The late Rev. Mr. LIGHTFOOT, who had seen it growing with me, was pleased to call it *depauperata*, from the paucity of its flowers, a name in which we sometime acquiesced; but, on maturer consideration, we think the name we have now given it more expressive of its principal character.

It affects the same situation as the *sylvatica*, to which, in its foliage, it bears some little resemblance, but when it comes to shew its seed-vessels it cannot easily be mistaken for any other British Carex.

It flowers about the latter end of May, but is most conspicuous towards the middle of June, when its seed-vessels are advanced.







Urtica dioica

Ed. Jan 1. 1791 by W. Curtis Sc. Goussier Del.

URTICA DIOICA. COMMON NETTLE.

URTICA. Linn. Gen. Pl. MONOECIA TETRANDRIA.

MASC. Cal. 4-phyllus. Cor. o. Nectarium centrale, cyathiforme.

FEM. Cal. 2-valvis. Cor. o. Sem. 1. nitidum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS.)

URTICA dioica, foliis oppositis cordatis, racemis geminis. Linn. Syst. Veg. p. 849. Spec. Pl. 1396. Fl. Succ. 863. Scopoli Fl. Carn. ed. 2. n. 1175.

URTICA stirpibus sexu distinctis, foliis serratis, ovato-lanceolatis, productis. Hall. Hist. 1614.

URTICA major vulgaris. J. Baub. III. 445. major vulgaris et media sylvestris. Park. 440. urens, Ger. emac. 706. maxima. Baub. Pin. 232.

URTICA racemifera major perennis. Raii Syn. p. 139. Common Stinging-Nettle. Hudf. Fl. Angl. p. 418. Lightf. Fl. Scot. p. 578.

RADIX perennis, repens, teretiuscula, subfulcata, tenax, flavescens, geniculata, fibras majusculas e geniculis emittens.

CAULES plures, bi ad quadripedales, erecti, vix ramosi, obtuse tetragoni, quadrifurcati, pilis rigidis hispidi.

FOLIA opposita, petiolata, cordata, acuminata, late ferrata, supra rugosa, venosa, utrinque pilis subulatis, urentibus hispida.

STIPULÆ quatuor, patentes, lineares, obtusiusculæ, subtus compresso-canaliculatæ.

FLORES dioici, in racemis quaternis, ramosis, deflexis, pubescenti-hispidis, glomeratim dispositi.

MASCULI FLORES.

CALYX: PERIANTHIUM quadripartitum, laciniis patentibus, ovatis, obtusis, concavis, subtus scabris, fig. 1.

COROLLA nulla.

NECTARIUM in centro floris, turbinatum, subdiaphanum, apice obtusum, perforatum.

STAMINA: FILAMENTA quatuor, subulata, longitudine calycis, patentia, intra singulam laciniam calycinam singula, instante anthesi elastice profiliencia. ANTHERÆ biloculares, albæ, fig. 2.

FEMINEI FLORES.

CALYX: PERIANTHIUM quadripartitum, persistens; laciniis duabus interioribus majoribus, germen cingentibus; duabus exterioribus minimis, patentibus, fig. 3.

COROLLA nulla.

PISTILLUM: GERMEN ovatum. STYLUS nullus. STIGMA patens, penicilliforme, album, fig. 4, 5.

PERICARPIUM nullum. Calycis laciniæ internæ, conniventes, fig. 6. includunt.

SEMEN unicum, ovatum, obtuso-compressum, nitidum, fig. 7, 8.

ROOT perennial, creeping, roundish, slightly furrowed, tough, yellowish, jointed, sending down from the joints some pretty large fibres.

STALKS many, from two to four feet high, upright, very little branched, bluntly quadrangular, each side furrowed, beset with rigid hairs.

LEAVES opposite, standing on foot-stalks, heart-shaped, acuminated, widely ferrated, the upper side wrinkled and veiny, on both sides beset with awl-shaped, stinging hairs.

STIPULÆ four, spreading, linear, bluntish, the under side compressed and channelled.

FLOWERS dioicous, dispersed in small clusters, in racemi growing four together, which are branched, bending downward, and beset with fine as well as coarse hairs.

MALE FLOWERS.

CALYX: a PERIANTHIUM divided into four segments, spreading, ovate, obtuse, concave, beneath roughish, fig. 1.

COROLLA none.

NECTARY in the centre of the flower, turbinated, almost transparent, blunt and perforated at the top.

STAMINA: four FILAMENTS awl-shaped, length of the calyx, spreading, one in each segment of the calyx, on shedding of the pollen springing out by their elasticity. ANTHERÆ bilocular, whitish, fig. 2.

FEMALE FLOWERS.

CALYX: a permanent PERIANTHIUM divided into four segments; the two inner ones larger, surrounding the germen; the two outer ones very small, spreading, fig. 3.

COROLLA none.

PISTILLUM: GERMEN ovate. STYLE none. STIGMA spreading, feathery, white, fig. 4, 5.

SEED-VESSEL none. The two inner segments of the Calyx closing and including the seed, fig. 6.

SEEDS single, ovate, blunt, compressed, whitish, shining, fig. 7, 8.

The name of *dioica* is given to this species of Nettle, from its producing male flowers on one plant, and female on another; it is however not always dioicous, as we have frequently observed female flowers on the male plant in great numbers.

It grows abundantly by the sides of hedges, in neglected fields, gardens, and pastures, and flowers from June to September.

Baron HALLER has observed, that in its fructification it has great affinity with the *Parietaria*, which is certainly just; the pollen in particular is discharged in the same curious way. (See *Parietar. offic.* already figured.)

The genus *Urtica* is a numerous one, there being twenty-eight species enumerated in the 14 ed. of LINNÆUS's *Systema Vegetabilium*; all of which however do not sting, as the three species indigenous to this country are well known to do: the naked eye readily perceives the instruments by which the Nettle infils its poison; a microscope of no great magnifying power more plainly discovers them to be rigid, transparent, tubular setæ, prickles, or stings, highly polished and exquisitely pointed, furnished at their base with a kind of bulb, in which the juice is principally contained, and which being pressed on when the sting enters the skin, forces the poison into the wound; of the venomous quality of this liquid, and of the manner in which it is emitted, I have had ocular proof: placing the footstalk of a Nettle leaf* (the prickles being more manageable, and better adapted to the microscope than those on the leaves or stalks) on the stage of the microscope, so that the whole of the prickle was in the focus when horizontally extended, I pressed on the bulb with a blunt-pointed pin, and, after some trials, found a liquid to ascend in the prickle, somewhat as the quicksilver does when a warm hand is applied to the

* The *Urtica pilulifera* was the one made use of.







Urtica urens.

the bulb of a thermometer; in some of the prickles I observed the liquid stationary, on pressing such in particular I saw most plainly the liquor ascend to, and flow copiously from its very extremity, see *fig. 9.* I was the more anxious to see this, as I suspected the poison might proceed from an aperture in the side of the sting, near the point, as in the forceps of the spider, and tooth of the viper, and where it appears to be placed, rather than at the extremity, that it may not take off from its necessary sharpness.

Pricking the skin of my hand with a needle, I placed some of the juice on the wound, when it instantly inflamed, and put on all the appearance of a part stung by a Nettle.

It has been observed, that such as handle this plant roughly, rarely feel the effects of its sting; while others, from slightly touching it, experience it in all its force; this circumstance is happily expressed by AARON HILL:

“Tender-banded stroke a Nettle,
“And it stings you for your pains;
“Grasp it like a man of mettle,
“And it soft as silk remains.”

Notwithstanding its roughness and stinging quality, many of the poorer people seek Nettle-tops in the spring with great avidity, as a pot-herb, neglecting the more luxuriant Chickweed, almost equal to spinach, growing perhaps abundantly just by it; others religiously put them in diet-drinks at the same period, expecting to have their whole mass of blood so purified as to be free from disease for twelve months at least.

Mr. LIGHTFOOT informs us in his *Fl. Scot.* that in Arran, and other islands of Scotland, a rennet is made of a strong decoction of Nettles; a quart of salt is put to three pints of the decoction, and boiled up for use; a common spoonful of this liquor will coagulate a large bowl of milk very readily, and agreeably, as he saw and experienced.

The stalk of the Nettle is found to have a texture somewhat like that of Hemp, and to be capable of being manufactured into cloth, ropes, and paper.

The old writers on the *Materia Medica*, are profuse in their encomiums on the virtues of the Nettle, as they are on those of most other plants; but, excepting the benefit which may arise from its external application, its virtues we apprehend are extremely problematical.

Urtication, or whipping with Stinging-Nettles, is an old practice, and recommended in various disorders, especially lethargy, palsy, or numbness of any particular limb, rheumatic pains, &c.

The Nettle is refused by cattle in general; hence we often see pastures, orchards, &c. disfigured by large patches of them, which, as the root is perennial and creeping, are every year increasing; the agriculturist who wishes to improve and embellish his fields, will lose no time in extirpating such. There are some, however, who think differently of this plant; HALLER says, that it affords excellent food for cattle, especially milch cows; that it has even been cultivated, and that advantageously, in Sweden for feeding kine. *Hall. Hist. p. 287.*

Though this plant is not remarkably advantageous either to man or beast, it affords nourishment to a great number of insects; it is the only food of the caterpillars of three of our most beautiful Butterflies, viz. the *Atalanta*, *Paphia*, and *Urtica*, the principal food of a fourth, the *Iö*, which I have this year found also on the Hop, and the occasional food of a fifth, the *C. album*, which feeds also on the hop and the elm; two of our moths also feed on it, viz. the *urticata* and the *verticalis*; besides these, which are the principal insects found on the Nettle with us, a great number of other indiscriminate feeders devour its foliage. The base of the leaves in autumn is extremely liable to be disfigured by tubercles, which, if opened, are found to contain small maggots, which probably produce the *Musca Urticae* of LINNÆUS; but of this we hope to speak with more certainty when we treat of the *Urtica pilulifera*.

URTICA URENS. SMALL NETTLE.

URTICA *urens* foliis oppositis ovalibus. *Linn. Syst. Veg. p. 849. Spec. Pl. p. 1396. Fl. Suec. 863. Scopolii Fl. Carn. ed. 2. n. 1174.*

URTICA *sexubus* sede disjunctis, foliis ovato-lanceolatis, julis oblongis. *Hall. Hist. 1615.*

URTICA *minor. Ger. emac. 707. minor annua. J. Baub. III. 446. urens minor. Baub. Pin. 232. racemifera minor annua. Raii Syn. p. 140. The lesser Stinging-Nettle. Hudf. Fl. Angl. p. 417. Lightf. Fl. Scot. p. 578.*

Differt a dioica, planta tertia parte humiliore; flori-
bus monoicis; radice annua, alba; caulibus ramosiori-
bus; foliis multo minoribus et rotundioribus; stipulis
vix conspicuis; racemis multo brevioribus, minusque
ramosis. Differs from the dioica, in being scarcely one-third as
tall; having male and female flowers on the same plant;
the root annual, white; stalks much branched; leaves
much smaller and rounder; stipulæ less conspicuous;
racemi much shorter in proportion.

There appears to be no reason for applying the term *urens* to this species in particular, as several of the others are equally pungent.

Of annual weeds, this Nettle is one of the very worst, especially in light, manured soils, each plant producing an immense number of seeds, and that in a shorter time than most others; PARKINSON observes, that it will “beare ripe seed twice in one year;” the young plants are therefore to be cut up with the hoe as soon as they appear. The great advantage of early hoeing cannot be too strongly impressed on the minds of Farmers and Gardeners.

Reference to the Parts of Fructification.

Fig. 1. the Calyx of the female flower. *Fig. 2.* the Calyx of the male flower. *Fig. 3.* the Stamina.
Fig. 4. the Pistillum. *Fig. 5.* the Seed. *Fig. 6.* the same magnified.







Poterium Sanguisorba

POTERIUM SANGUISORBA. BURNET.

POTERIUM *Linnaei Gen. Pl. MONOECIA POLYANDRIA.*

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS

SEU AD SINGULOS FLORES SINGULIS.

POTERIUM *Sanguisorba* inerme caulibus subangulosis. *Lin. Sp. Pl. 1411.*

PIMPINELLA *polystemon. Haller hist. n. 706.*

SANGUISORBA *minor. J. Baubin III. 2. 113.*

PIMPINELLA *Sanguisorba minor hirsuta. Baubin pin. 160.*

PIMPINELLA *vulgaris minor. Parkinson 582.*

PIMPINELLA *fylvestris. Gerard emac. 1045. Raii Syn. p. 203, Burnet. Hudson. Fl. Angl. p. 358.*

RADIX perennis, simplex, albida, in terram alte descendens.

CAULES plures, suberecti, dodrantes aut pedales, ramosi, striati, subangulosi, rubicundi, læves, ad basin hirsutuli.

FOLIA alterna, pinnata, pinnis inferioribus subrotundis, plerumque oppositis, ferratis, lævibus, subtus cœrulescentibus, nervo medio hirsutulo, caulinis ovatis et ovato-acutis.

STIPULÆ dentatæ.

FLORES in capitulis subrotundis congesti, superiores feminei, inferiores masculi, sæpe etiam hermaphroditi.

CALYX: PERIANTHIUM triphyllum, inferum, foliolis membranaceis, marcescentibus, *fig. 1.*

COROLLA quadripartita, laciniis ovatis, sæpe coloratis, concavis, patentibus, basi coalitis, *fig. 2*: in flore masculo seu hermaphrodito et calyx et corolla majores sunt.

STAMINA: FILAMENTA circiter triginta, longa, pendula, rubra: ANTHERÆ flavæ, biloculares, loculis semilunatis, *fig. 3, 4, 5.*

PISTILLUM in flore femineo: GERMEN quadrangulum: STYLUS capillaris: STIGMA ruberrimum, penicilliforme, *fig. 7, 8, 9, auct.* Styli et Stigmata duo sæpe occurrunt: in flore hermaphrodito Styli duo breviores, Stigmatibus minus expansis, *fig. 10.*

PERICARPIUM BACCA exsucca, tetragona, lateribus rugosis, continens Semina duo, pallide fusca, *fig. 11, 12.*

ROOT perennial, simple, whitish, penetrating deep into the earth.

STALKS several, nearly upright, from nine inches to a foot in height, branched, striated, somewhat angular, of a reddish colour, smooth, but slightly hairy at bottom.

LEAVES alternate and pinnated; the lowermost pinnæ, or small leaves, roundish, generally opposite, ferrated, smooth, underneath blueish; the midrib slightly hairy; the leaves of the stalk oval and pointed oval.

STIPULÆ indented.

FLOWERS growing in little round heads, the uppermost female, the lowermost male, and oftentimes hermaphrodite.

CALYX: a PERIANTHIUM of three leaves, placed below the Germen; the leaves membranous and withering, *fig. 1.*

COROLLA divided into four segments, which are oval, often coloured, concave, spreading, and uniting at bottom, *fig. 2*: in the male or hermaphrodite flower both the Calyx and Corolla are larger.

STAMINA: FILAMENTS about thirty, long, pendulous, and of a red colour: ANTHERÆ yellow, bilocular, the cavities semilunar, *fig. 3, 4, 5.*

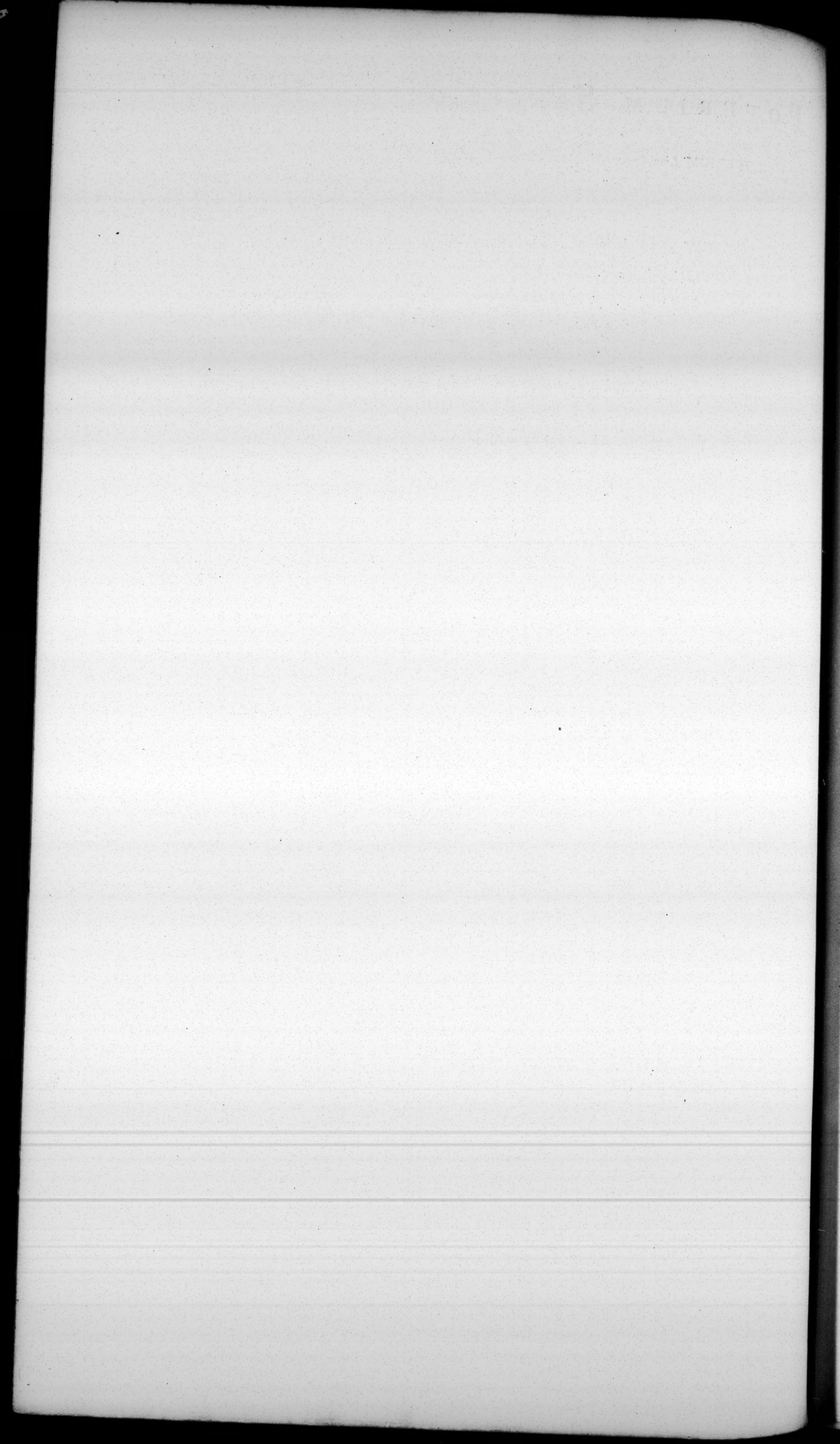
PISTILLUM in the female flower: GERMEN quadrangular: STYLE capillary: STIGMA very red, and pencil-shaped, *fig. 7, 8, 9, magnified.* Two Styles and Stigmata often occur: in the hermaphrodite flower the Styles are shorter, and the Stigmata less expanded, *fig. 10.*

SEED-VESSEL a juiceless BERRY, having four wrinkled sides, and containing two pale brown SEEDS, *fig. 11, 12.*

BURNET is one of those plants which has for some years past been attempted to be introduced into agriculture, but not answering the farmers expectations, is now in a great degree laid aside. Cattle are said not to be fond of it; nor is its produce sufficient to answer the expence attending its culture. It is to be lamented that persons do not pay a little more attention to the nature of plants before they so warmly recommend them. It should seem very unlikely *a priori*, that a small plant, scarce ever met with but on hilly and chalky ground, and to which cattle in such situations do not shew any particular attachment, should afford better, or more copious nourishment, than the *Clovers* and other plants already in use. It is not meant by this, however, to discourage that laudable spirit of improvement which so happily prevails at present; but to caution such as introduce any new plant, to make themselves thoroughly acquainted with its natural history.

The leaves of this plant, when bruised, smell somewhat like Cucumber; and are used by some as a salad; and by others added to cool tankard to give it an agreeable flavour.

LINNÆUS places it among his Monoicous plants, the flowers on the top of the heads being female, and those at the bottom male, contrary to what occurs in most plants of that Class: but it happens very frequently, that the bottom flowers have likewise in them two Pistils, although not so conspicuous as in the female flowers, the Stigmata being not so much branched; hence there being female and hermaphrodite flowers on the same plant, it would perhaps with more propriety be placed in the Class *Polygamia*. Do not these obscure hermaphrodite flowers contribute to the fertility of the plant?







Salix monandra.

SALIX MONANDRA. BITTER WILLOW.

SALIX *Lin. Gen. Pl.* DIOECIA DIANDRIA.

MASC. *Amenti squamæ. Cor. o. Glandula baseos nectarifera.*

FÆM. *Amenti squamæ. Cor. o. Stylus 2-fidus. Caps. 1-locularis, 2-valvis. Sem. papposa.*

Raii Syn. Gen. 28. ARBORES ET FRUTICES.

SALIX *monandra* foliis ferratis, glabris, lineari-lanceolatis, superioribus obliquis. *Hoffman hist. Salic. p. 18.*

SALIX *purpurea* foliis ferratis glabris lanceolatis: inferioribus oppositis. *Lin. Syst. Vegetab. p. 879. Sp. Pl. p. 1444. Fl. Suec. n. 884.*

SALIX *Helix* foliis ferratis glabris lanceolato-linearibus: superioribus oppositis obliquis. *Lin. Syst. Vegetab. p. 879. Sp. Pl. 1444.*

SALIX *monandra*, foliis glabris, lineari-lanceolatis, ferratis, superne conjugatis, julis tomentosis. *Hall. hist. n. 1640.*

SALIX *purpurea. Scopoli Fl. Carn. n. 1209. DIAGN. squamæ monandræ.*

SALIX *monandra. Arduin. Memor. 1. Spec. 67. tab. 11.*

SALIX *humilior* foliis angustis subcæruleis ex adverso binis. *Raii Syn. 448. The yellow dwarf Willow.*

SALIX *Helice Theophrasti Lugdun. p. 277. Hudf. Fl. Angl. ed. 2. p. 427. Lightfoot Fl. Scot. p. 597.*

FRUTEX mediocris, debilis, ramosus, in arbusculum nobiscum sæpe excrefcens, in septentrionali parte Angliæ multo humilior.

A SHRUB of a middling size, weak, branched, with us often growing up into a small tree, in the North of England of much humbler growth.

RAMI tenues, teretes, viminei, tenacissimi, nitidi, cortice cinereo, olivaceo, seu purpurascens, nobiscum raro intense purpureo.

BRANCHES slender, round, twiggy, extremely tough, glossy, the bark ash-coloured, olive, or purplish, seldom of a deep purple with us.

FOLIA nunc opposita, nunc alterna, idque in eadem planta, petiolata, lanceolata, versus apicem latiora, apice acuta, basi obtusa, semunciam circiter lata, multo etiam latiora, *fig. 6.* et angustiora occurrunt, margine nunc undique serrata, nunc superne tantum, etiam integerima, lævia, superne e cæruleo viridia, subtus glauca, idque semper quoad observavimus, avenia, nervo medio albido, glandulis destituta, *sapore amarissimo.*

LEAVES now opposite, now alternate, and that in the same plant, standing on footstalks, lanceolate, broadest towards the tip, pointed at the end, obtuse at the base, about half an inch in breadth, but much broader, *fig. 6.* and much narrower leaves occur, the edge sometimes serrated throughout, sometimes above only, even perfectly entire, smooth, above of a blueish green colour, beneath glaucous, and that always as far as we have observed, veinless, the midrib whitish, without glands, and of an extremely bitter taste.

PETIOLUS brevis, basi latior.

LEAF-STALK, short, broadest at the base.

AMENTA mascula plurima, subterminalia, nunc opposita, idque alterne, nunc alterna, subsessilia, pollicaria, cylindracea, compacta, erectiuscula, sæpe incurvata, primum e rufo-nigricantia, lanugine incana, exsertis antheris pulchre aurantiaca; *squamæ* subrotundæ, concavæ, pilosæ, ad medium usque nigræ, intus sæpe rubellæ, demum reflexæ, *fig. 1.*

CATKINS of the male plant numerous, somewhat terminal, sometimes opposite, and that alternately so, sometimes alternate, nearly sessile, about an inch in length, cylindrical, compact, nearly upright, often bowed, at first of a reddish black colour, covered with a grey down, when the antheræ put forth, of a beautiful orange; *scales* roundish, concave, hairy, black as far as the middle, often reddish within, finally reflexed, *fig. 1.*

STAMEN: FILAMENTUM unicum, squamâ duplo longius, filiforme, pilosum; ANTHERA mascula, *fig. 2.* quadrangula, *quadriloba*, primo aurantiaca, dein flava, demum nigricans.

STAMEN: one FILAMENT twice the length of the scale, filiform, hairy; ANTHERA largish, *fig. 2.* quadrangular, composed of four lobes, at first orange-coloured, then yellow, lastly blackish.

NECTARIUM: *Glandula* truncata, emarginata, flavescens, sessile, *fig. 3.*

NECTARY: a *Gland* truncated, emarginate, yellowish, and sessile, *fig. 3.*

AMENTA feminea, masculis quoad formam similia, at flavescencia, et minus contorta, *fig. 5.*

CATKINS of the female, similar in shape to those of the male, but yellowish and less distorted, *fig. 5.*

PISTILLUM: GERME ovatum, subglobosum, sessile; STYLUS vix ullus; STIGMA bilabiatum, flavescens, labiis emarginato bifidis, demum e rufo nigricantibus, *fig. 4.*

PISTILLUM: GERME ovate, almost globular, sessile; STYLE scarcely any; STIGMA forming two lips, yellowish, the lips slightly bifid, finally of a reddish black colour, *fig. 4.*

The Willows are a tribe of plants, not less distinguished for their great utility in rural economy, than for the difficulty which has hitherto attended the ascertaining of the several species: it will, perhaps, be found, that this difficulty is not peculiar to the Willows, but that a vast many other plants are subject to an equal inconstancy of appearance from similar causes: we are not to be disheartened in our researches, because we meet with difficulties, they ought rather to incite us to a more diligent examination, and if we do not succeed at one time, we probably shall at another; we have found, by experience, that the eye does not at all times possess the same degree of acuteness, and that the character of a plant, which, at one period, has been overlooked, at another, has formed its most prominent feature.

Impressed with these ideas, we set about investigating the Willows, with the greater pleasure, indeed, as we find, on examining them, that the parts of fructification, hitherto but little noticed, are capable of throwing a great light on the subject: the stamina in some, and the pistilla in others, differ in their appearance beyond expectation. Thus the male plant of the present species, if every other character were wanting, would be distinguished when in flower from our other Willows, by its stamina alone; each scale of the catkin produces one filament only; hence, according to Linnean usage, it is called monandrous: but, it is very remarkable, that though there is only one filament, it supports two antheræ, and hence, in strict propriety, it may be considered as diandrous. The antheræ, before they open, are of a bright orange colour, and impart to the catkin an appearance strikingly beautiful; the female catkins are similar in shape, but want the brilliancy of the male.

Unfortunately the flowering period in the Willows is of short duration; during the greatest part of the summer, we have no flowers to assist us in our investigations, and even during that period, it frequently happens, especially in the cultivated Willows, which are usually raised from cuttings, that we can discover one sex only; it is not so, indeed, in those Willows which are more in a state of nature, yet, when the flowering is over, size, mode of growth, leaves, stipulæ, or some other part of the plant, will generally afford a good specific character.

The present species, when out of bloom, is particularly distinguished by the length, as well as delicate slenderness of its twigs, and its subglaucous spurge-like leaves, but, above all, by their extreme bitterness when chewed, it is for this reason we have called it the *bitter Willow*.

These several characters, which are not liable to vary, and some of which are always present, will, if in the least degree attended to, readily discriminate this species. The leaves of most of the Willows are unfortunately subject to a great diversity of appearance from a variety of causes; those of the monandra are by no means exempt from this inconstancy of appearance; they vary greatly, both in size and breadth, and still more in the notchings of the leaves (see the description) the stalks also vary greatly in colour, being sometimes almost yellow: the leaves on the summits of the twigs are sometimes found towards the end of August, of a brilliant red colour, which produces a most charming effect; this singularity is, however confined to particular plants: the tops of the branches are sometimes found expanded in this Willow into little squamous heads, somewhat resembling roses, whence, by some, it has been called *rose Willow*; this is the effect of an insect, and, of course, accidental.

The *Salix monandra* grows sparingly in the neighbourhood of London, it is found most commonly in hedges, sometimes in other grounds, where it is accidentally introduced; in some parts of the North of England, there is no Willow more common; it is the earliest in bloom of any of the Willows we are acquainted with, flowering in mild seasons, by the end of February, usually before the *Caprea*.

The extreme bitterness of the leaves and twigs of this species, renders it very valuable for many purposes. When used as a band or withe, it is never eaten by vermin; nor, when formed into a hedge, is it browsed on by cattle; even insects prey on it much less readily than on the other species. In some parts of Yorkshire, its twigs are used for making the finest sorts of basket-work; and, from the observations we have made, we should think it might be advantageously cultivated for such purposes. By way of experiment, we one year planted a row of cuttings of all the common Willows, and were surprised to find, that the very longest one-year's shoot was that of the bitter Willow, it exceeded even that of the Osier (*Salix viminalis*) which was the next longest.

The bark of some of the Willows has been used as a substitute for the Peruvian Bark in the cure of agues; that of the present species, from its extreme bitterness, may probably prove more efficacious.

The leaves of this plant become of a blueish black colour in drying.

Professor HOFFMAN, who has published some very accurate figures and descriptions of the Willows, indisputably proves, that the *purpurea* and *helix* of LINNÆUS are one and the same species; he, therefore, considering them as such, rejects both those names, and adopts that of ARDUINI; concurring, from the most perfect conviction, in opinion with the learned Professor, we follow him in this instance of reform.



*Salix triandra.*

SALIX TRIANDRA. THREE-THREADED WILLOW.

SALIX *Lin. Gen. Pl.* DIOECIA DIANDRIA.

MASC. *Amenti squamæ. Cor. o. Glandula baseos nectarifera.*

FÆM. *Amenti squamæ. Cor. o. Stylus 2-fidus. Caps. 1-locularis; 2-valvis. Sem. papposa.*

Raii Syn. Gen. ARBORES ET FRUTICES.

SALIX *triandra* foliis ferratis glabris, floribus triandris. *Lin. Syst. Vegetab. p. 879. Sp. Pl. p. 1442.*

SALIX foliis glabris, elliptico-lanceolatis, ferratis; stipulis dentatis; julis gracilibus triandris. *Hall. Hist. n. 1637.*

SALIX *triandra. Scopoli Fl. Carn. ed. 2. p. 259.*

SALIX folio amygdalino utrinque virente aurito. *Bauh. Pin. 473.*

SALIX folio amygdalino utrinque aurito corticem abjiciens. Almond-Leaved Willow that casts its Bark. *Raii Syn. ed. 3. p. 448.*

SALIX folio auriculato splendente flexilis. *Raii Syn. ed. 3. p. 448.* The round-ear'd Shining Willow. *Hudf. Fl. Angl. ed. 2. p. 425.*

FRUTEX orgyalis et ultra, in arbusculum medio-crem nonnunquam exurgens, corticem quottannis abjiciens, undique ramosus.

RAMI erecti, subvirgati, teretes, versus summitates angulati, profunde sulcati, tenaces, flexiles aut etiam fragiles presertim ad genicula, cortice e cinereo aut fusco virescente aut flavescente, foliosi.

FOLIA alterna, longitudine tripollicaria, latitudine fere pollicaria, in ramis junioribus triplo majora, lanceolata, acuta, ferrata, ferraturis cartilagineis, prominentibus, glabra, nitentia, supra saturate viridia, subtus pallidiora, nervo medio albido, prominulo, basi glandulis aliquot sæpius occupata, petiolata, petiolo semunciali, canaliculato.

STIPULÆ in quibusdam ramis nullæ, in plerisque binæ ad basin petioli, auriformes, rugosæ, crenulatæ, superne glandulosæ.

AMENTA mascula numerosa, ante anthesin longitudine fere pollicaria, subcylindracea, tomento sericeo obducta, lutescente-viridia, odorata, post pollinis emissionem longitudine bipollicaria et ultra: foliola quinque lanceolata, utrinque nitentia, pilosa, subtus pallidiora ad basin cujusvis amenti.

SQUAMA ad basin singuli floris pallide viridis, parum rugosa, margine apiceque pilosa, fig. 1.

STAMINA: FILAMENTA plerumque tria, sub pollinis emissionem squamâ duplo longiora; ANTHERÆ subrotundæ, biloculares, lutescentes, fig. 2.

NECTARIUM: Glandula minuta, truncata, ad germinis basin, fig. 3.

AMENTA feminea numero et longitudine masculis similia, illis viridiora et minus spectabilia.

SQUAMÆ obtusæ, rugosæ, lutescentes, sub florescentia ad dimidiam germinis altitudinem attingentes, fig. 4.

GERMEN oblongum, acuminatum, fig. 5.

STIGMATA duo, brevia, obtusa, horizontalia, bifida, fig. 6.

A SHRUB six feet or more in height, sometimes growing up to a middle-sized tree, casting its bark yearly, branched on all sides.

BRANCHES upright, somewhat twiggy, towards the extremity angular or deeply grooved, tough, flexible, or even brittle, especially at the joints, covered with an ash-coloured, brownish-green, or yellowish bark, thickly set with leaves.

LEAVES alternate, three inches in length, and almost one in breadth, in the younger branches thrice as large, lanceolate, pointed and serrated, the serratures or teeth cartilaginous and prominent, smooth, glossy, of a deep green colour above and pale beneath, the midrib whitish, and somewhat prominent, most commonly beset with some glands at the base, standing on footstalks, half an inch in length, scooped.

STIPULÆ in some of the branches none, but in most a pair at the base of the leaf-stalk, ear-shaped, wrinkled, notched and glandular on the upper side.

CATKINS of the male plant numerous, before the antheræ put forth almost an inch long, nearly cylindrical, covered with a silky down, of a yellowish green colour; when all the antheræ have shed their pollen, they extend two inches or more in length: five small lanceolate leaves, glossy on both sides, hairy and somewhat paler on the under side, are placed at the base of each catkin.

The SCALE at the base of each floret, is of an uniform pale green colour, hairy on both edges as well as the tip, and somewhat wrinkled, fig. 1.

STAMINA: FILAMENTS mostly three, becoming on the shedding of the pollen as long again as the scale; ANTHERÆ roundish, yellow and bilocular, fig. 2.

NECTARY: a minute Glandule, truncated, at the base of the Germen, fig. 3.

CATKINS of the female, similar in number and length to those of the male, but greener and less fleshy.

SCALES obtuse, wrinkled, yellowish, when properly in blossom extending half way up the germen, fig. 4.

GERMEN oblong, tapering, fig. 5.

STIGMATA two, short, obtuse, spreading horizontally, and bifid, fig. 6.

The Willows in general are more distinguished for their uses in rural œconomy, than as ornamental trees or shrubs; nevertheless, many of them come under the latter description, and with them we may rank the present species, more indeed on account of its flowers than its foliage. When suffered to grow, it acquires the size of a small tree, and the catkins being unusually numerous, render the male plant in particular, in which they are of a bright yellow colour, and agreeable scent, an object highly pleasing among other flowering shrubs or trees.

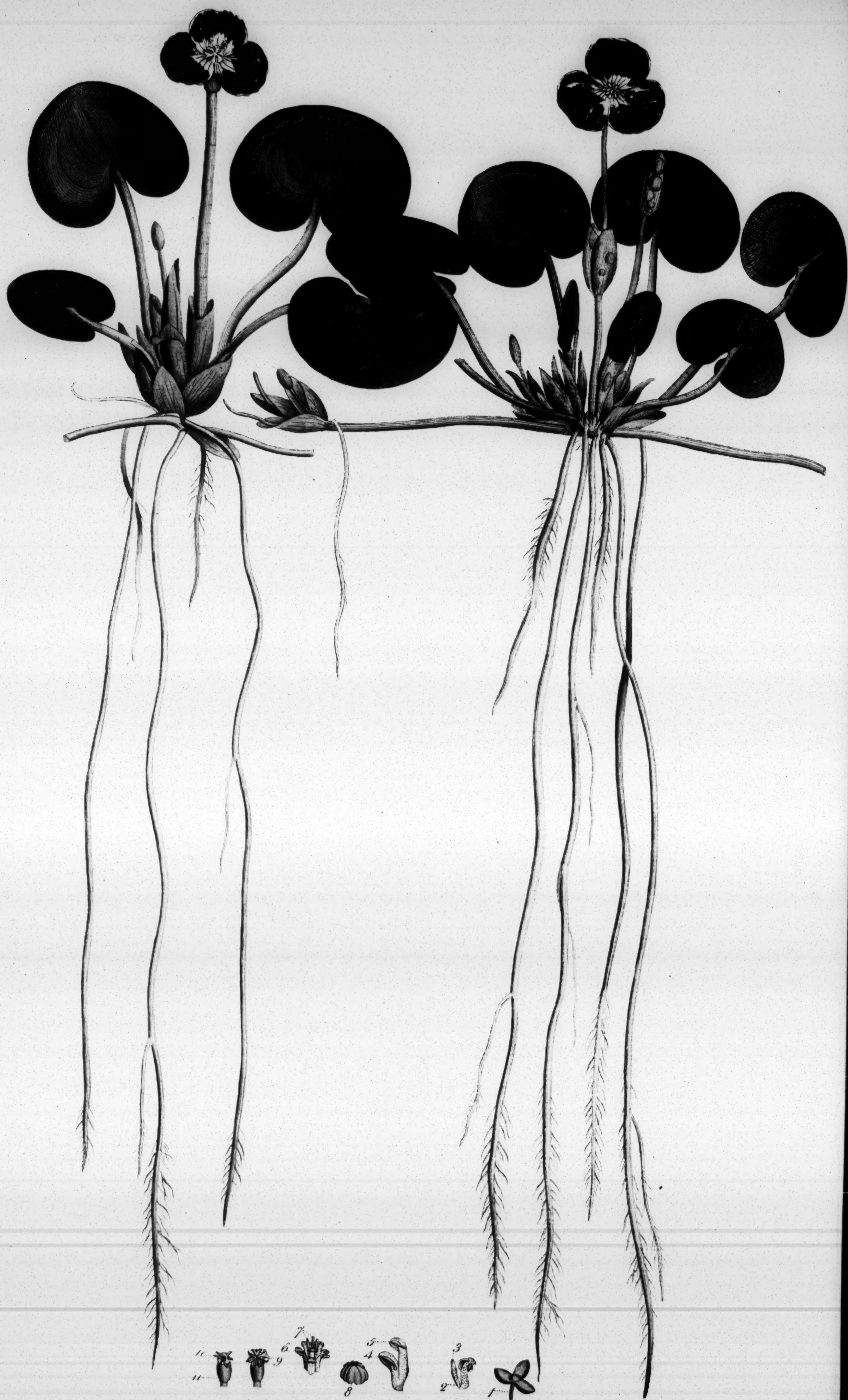
In all Willows planted for ornament, the male tree is to be preferred; not only because its catkins are the most brilliant, while the foliage is the same as that of the female, but because the females, when planted by themselves, quickly shed their catkins, which make a litter.

The leading character of this Willow, when in flower, is its three stamina to each floret; now and then indeed two only occur, but not sufficiently often to destroy the excellency of the character: when out of flower, it is distinguishable by yearly casting the bark of its trunk when of a certain age (whether every individual does this or not, I am not certain; a tree of this species in my garden has constantly done it for many years); its leaves are more strongly serrated than most others; the branches in autumn are usually furnished with stipulæ, but not always: and they have another character which I have found of great consequence in determining this species; towards the top they are angular or grooved, in a greater degree than any other Willow I have examined—it is not usual for Willows to flower spring and autumn, but we have frequently found this species to do so.

In its tree state, it grows sparingly in the hedges about town; in the other grounds it is not uncommon, being cultivated as a Basket Willow—it flowers the beginning of *May*—the bark has more astringency but less bitterness than the *Salix monandra*, and has been found efficacious in curing intermitting fevers.

We strongly suspect that the *amygdalina* is no other than this species.





Hydrocharis Morsus ranae

Janssen Sculp.

HYDROCHARIS MORSUS RANÆ. FROG-BIT.

HYDROCHARIS *Linnaei. Gen. Pl. DIOECIA ENNEANDRIA.*

MASC. *Spatha* 2 phylla. *Cal.* 3 fidus. *Cor.* 3 petala. *Filam.* 3 interiora stylifera. FÆM. *Cal.* 3 fidus. *Cor.* 3 petala. *Styli* 6. *Caps.* 6 locularis, polysperma infera.

HYDROCHARIS. *Linnaei. Syst. Vegetab.* p. 746. *Spec. Pl.* 1466. *Fl. Suecic.* n. 914.

HYDROCHARIS. *Haller. hist.* 4. 1068.

NYMPHÆA alba minima. *Bauh. p.* 193.

MORSUS RANÆ *Parkinson.* 1252.

MORSUS RANÆ *Gerard. emac.* 818.

STRATIOTES folio asari, femine rotundo *Raii. Syn.* p. 290. The least white Water Lilly or Frog-bit.

Hudson. Fl. Angl. ed 2. p. 436.

Lightfoot. Fl. Scot. p. 622.

RADIX: Flagellis in longum extensis facile multiplicatur hæc planta, nutrimentum hauriens per radículas albas, fibrillosas, in limum profunde descendentes.

FOLIA sex, five octo, natantia, rotundato-reniformia, carnosa, glabra, integerrima, subpellucida, venis paucis circularibus, plurimis transversis notata, subtus rubella.

PETIOLI spithamæi, crassi, pellucidi, lineis plurimis decussati.

SPATHÆ in utraque sexu plurimæ, radicales, ovatæ, pellucidæ, in masculis etiam circa medium pedunculi enascuntur binæ, flosculos tenellos, inapertos quasi in vesicâ continentes.

PEDUNCULI longitudine petiolorum, erecti; masculi triflori aut quadriflori; feminei uniflori, crassiores.

Mas.

CALYX: PERIANTHIUM triphyllum, foliolis ovatis, concavis, flavescentibus, membranaceis, patentibus. *fig. 1.*

COROLLA: PETALA tria, alba, plana, rugosula, tenerrima, basi flava.

STAMINA: FILAMENTA novem, in tres ordines disposita, quorum intermedius ordo stipitem subulatum e basi sua interiore, styli ad instar exerit, et in centro collocat. Duo reliqui ordines basi connectuntur, ut internum et externum cohæreat filamentum; ANTHERÆ sublineares, biloculares, flavæ. *fig. 2. 3. 4. 5. 6. 7.*

PISTILLUM: GERMINIS rudimentum in centro. *f. 8.*

Femina.

CALYX: PERIANTHIUM ut in mare, superum.

COROLLA ut in mare.

PISTILLUM: GERMEN subovatum, inferum: STYLI sex, longitudine calycis, patentes, compressi, bifido-canaliculati; STIGMATA bifida, acuminata. *fig. 9. 11.*

NECTARIUM: Glandulæ tres, flavæ, germen coronant. *fig. 10.*

PERICARPIUM: CAPSULA coriacea, subrotunda, sexlocularis.

SEMINA numerosa, minima, subrotunda.

ROOT: this plant easily multiplies itself by means of runners which shoot out to a great length, and is supported by long fibrous roots, which penetrate deep into the mud.

LEAVES six or eight, swimming, of a roundish kidney shape, fleshy, smooth, perfectly entire, somewhat transparent, marked with a few circular but numerous transverse lines, reddish underneath.

LEAF STALKS six or seven inches long, thick, transparent, having numerous cross bars.

SHEATHS in both sexes numerous, next the root, oval, and transparent, in the male plant also a pair grow out about the middle of the flower stalk which contain the tender unopen'd blossoms as in a bladder.

FLOWER-STALKS the length of the leaf stalks, upright; the male producing three or four flowers, the female one only, thicker in size.

Male.

CALYX: a PERIANTHIUM of three leaves, which are oval, concave, yellowish, membranous and spreading. *fig. 1.*

COROLLA: three, white, flat *Petals* a little crumpled, very tender, and yellow at bottom.

STAMINA: nine FILAMENTS, disposed in three rows, of which each in the middlemost puts out from its base on the inside a style like substance which is placed in the center of the flower. The two other rows are connected at bottom so that the internal and external filament adhere together; ANTHERÆ yellow, nearly linear, with two cavities. *fig. 2. 3. 4. 5. 6. 7.*

PISTILLUM; the rudiment only of a GERMEN in the center. *fig. 8.*

Female.

CALYX: a Perianthium as in the male, placed above the Germen.

COROLLA as in the male.

PISTILLUM: GERMEN somewhat oval, beneath the calyx; STYLES six, the length of the calyx, spreading, flat, forked and channel'd; STIGMATA forked and pointed.

NECTARY: three yellow Glands crown the germen.

SEED-VESSEL: a roundish, leathery Capsule, with six cavities.

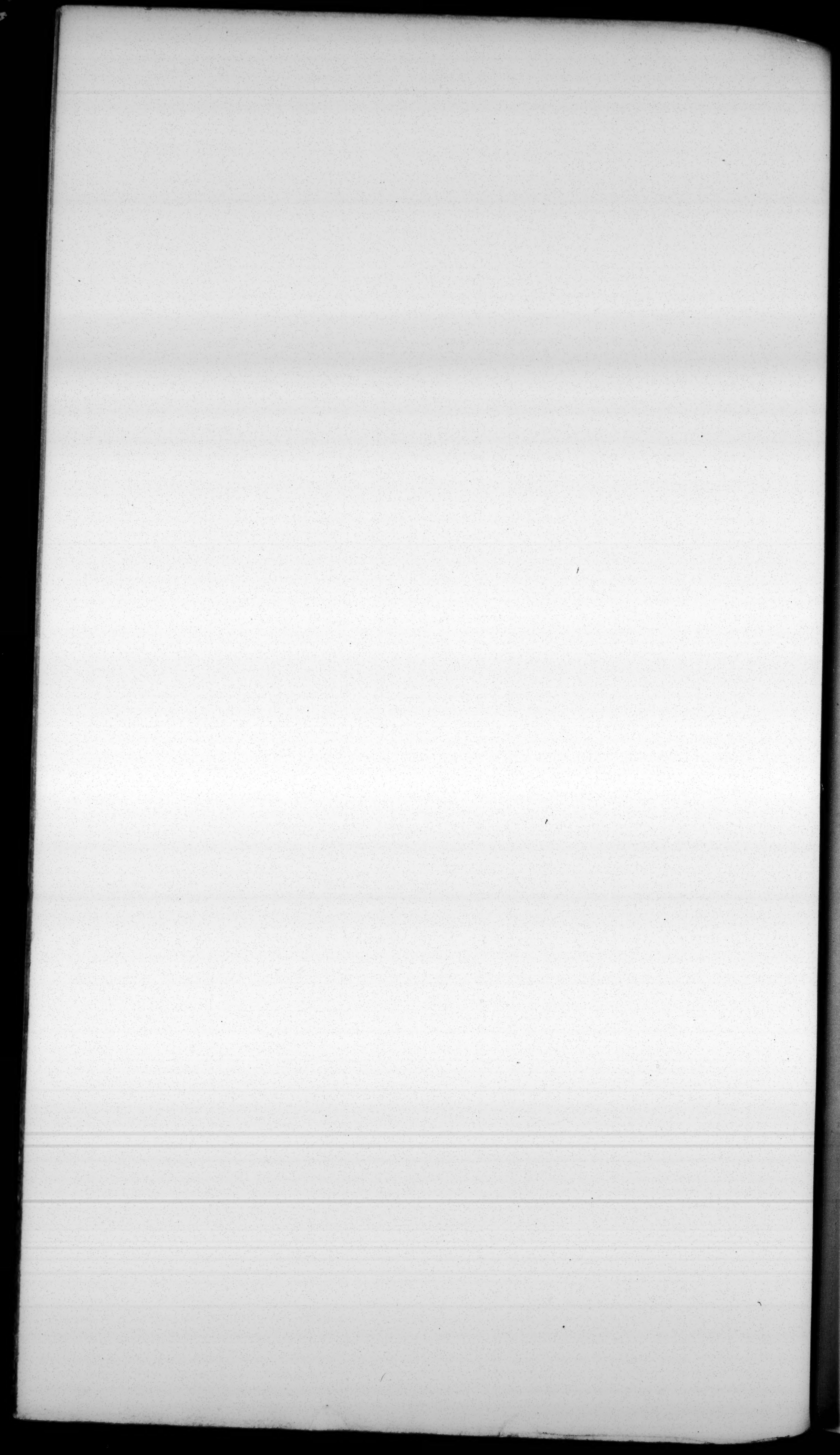
SEEDS numerous, very minute, and roundish.

Most of the deep ditches with a muddy bottom, having a flow current of water, and which abound in the vicinity of the Thames, have their surface cover'd with this plant in Autumn, at which period its blossoms which are uncommonly delicate make their appearance.

The leaves and indeed the whole structure and oeconomy of the Frog-bit is exceedingly curious, and deserving the minute attention of the inquisitive Botanist.

Its particular uses we seem at present unacquainted with.

RAY mentions a variety of it with sweet, double flowers, growing in a ditch at the side of *Audrey Causey* near a wooden bridge in the Isle of Ely.







Mercurialis annua.

Del. et fculp.

MERCURIALIS ANNUA. ANNUAL, or FRENCH MERCURY.

MERCURIALIS *Lin. Gen. Pl. DIOECIA ENNEANDRIA.*

MASC. Cal. 3-partitus. Cor. o. Stam. 9-f. 12. Antheræ globosæ didymæ.

FÆM. Cal. 3-partitus. Cor. o. Styli 2. Caps. dicocca, 2-locularis, 1-sperma.

MERCURIALIS *annua caule brachiato, foliis glabris, floribus spicatis. Lin. Syst. Vegetab. p. 746. Spec. Pl. p. 1465.*

MERCURIALIS *caule annuo, brachiato, foliis conjugatis, ovato lanceolatis, glabris. Haller hist. n. 1600.*

MERCURIALIS *Cynocrambe Scopoli Fl. Carn. n. 1226.*

MERCURIALIS *testiculata, five mas Diofc. et Plinii. Bauhin pin. 121.*

MERCURIALIS *spicata, five fæmina, Diofc. et Plinii. Bauhin pin. 121.*

MERCURIALIS *vulgaris mas et femina. Park. 295.*

MERCURIALIS *mas et femina. Ger. emac. 332.*

MERCURIALIS *annua glabra vulgaris. Raii Syn. p. 139. French Mercury, the male and female, Hudfon. Fl. Angl. ed. 2. p. 435.*

RADIX annua, fibrosa, alba.

CAULIS pedalis ad sesquipedalem, erectus, glaber, ad basin usque ramosus, geniculatus, geniculis incrassatis, subcompressis, anceps, idque alterne.

RAMI alterne oppositi, foliosi, cauli subfimiles.

FOLIA opposita, petiolata, ovata, obtusiuscula, patentia, basi biglandulosa, obtuse ferrata, ad lentem ciliata, utrinque glabra, lucidiuscula, venosa.

PETIOLI foliis multo breviores, glabri, supra canaliculati.

STIPULÆ quatuor, ad genicula, utrinque binæ, minimæ.

PEDUNCULI florum masc. axillares, oppositi, erecti, nudi, filiformes, foliis longiores, subtetragoni, superne proferentes glomerulos plures florum, sessiles, odore sambuci.

CALYX: PERIANTHIUM tripartitum, foliolis ovatis, acutis, patentibus, fig. 1.

COROLLA nulla.

STAMINA: FILAMENTA plerumque novem, alba, capillaria; ANTHERÆ didymæ, flavæ, fig. 2.

FLORES FÆMINEI in distinctâ plantâ.

PEDUNCULI axillares, foliis breviores, sæpius biflori, inter flores fæmineos aliquando observatur masculus imperfectus, longius productus.

CALYX ut in mare, nisi quod foliola paulo minora, fig. 3.

COROLLA nulla.

NECTARIA duo, subulata, utrinque ad latus germenis solitaria, fig. 4.

PISTILLUM: GERMEN subrotundum, didymum, compressum, hispidum; STYLUS vix ullus; STIGMATA duo, subulata, patentia, longitudinaliter superne hispida, fig. 5.

PERICARPIUM: CAPSULA didyma, echinata, bilocularis.

SEMEN unicum in singulo loculamento globosum, extus castaneum, intus album.

ROOT annual, fibrous, of a white colour.

STALK a foot or a foot and a half high, upright, smooth, branched quite to the bottom, jointed, the joints swelled, and somewhat flattened, a prominent line runs on each side of the stalk, from one joint to another, and that alternately.

BRANCHES alternately opposite, leafy, somewhat like the stalk.

LEAVES opposite, standing on footstalks, ovate, bluntish, spreading, having two glands at the base, obtusely ferrated, if magnified edged with hairs, smooth on each side, somewhat glossy, and veiny.

LEAF-STALKS much shorter than the leaves, smooth, channelled above.

STIPULÆ four at each joint, two on each side, very minute.

FLOWER-STALKS of the male flowers axillary, opposite, upright, naked, filiform, longer than the leaves, somewhat four-cornered, producing towards the top, several round, sessile, small clusters of flowers, having the smell of elder.

CALYX: a PERIANTHIUM deeply divided into three segments, which are ovate, pointed, and spreading, fig. 1.

COROLLA wanting.

STAMINA: generally nine FILAMENTS, white and very fine; ANTHERÆ double, and yellow, fig. 2.

FEMALE FLOWERS on a separate plant.

FLOWER-STALKS axillary, shorter than the leaves, generally sustaining two flowers; among the female flowers we sometimes find an imperfect male flower standing on a longer footstalk.

CALYX as in the male, except that the leaves are a little smaller, fig. 3.

COROLLA wanting.

NECTARIES two, tapering, one growing singly on each side of the germen, fig. 4.

PISTILLUM: GERMEN roundish, double, flattened, hispid; STYLE scarce any; STIGMATA two, tapering, spreading, on the upper side hispid lengthwise, fig. 5.

SEED-VESSEL a twin CAPSULE, prickly, having two cavities.

SEED one in each cavity, globular, chestnut coloured without, white within.

We can discover no satisfactory reason for calling this species by the name of French Mercury, as it is not peculiar to France, but found with us, in a variety of places: RAY mentions it as growing plentifully on the sea-beach, near Ryde, in the Isle of Wight; and PARKINSON, near a village called *Brookeland*, in Romney-Marsh, Kent: it would appear to be more common now than formerly, as we very frequently meet with it in waste places, by the sides of roads, and in neglected gardens, in the neighbourhood of London.

The

The Dogs Mercury was at one period thought to be an innocent plant, its poisonous qualities were discovered by accident: the Annual, or French Mercury, has, at present, the reputation of being not only harmless, but to possess medicinal virtues; it is of some consequence then for us rightly to distinguish the two, and in this there is little difficulty. The Dogs Mercury has a strong, creeping, perennial root; this an annual one: the Dogs Mercury flowers only in the Spring; this the whole Summer long: the Dogs Mercury has an unbranched stem; this a stalk branched down to the bottom.

The Annual Mercury has been ranked among the emollient oleraceous herbs; it is said gently to loosen the belly; its principal use has been in glysters.

The whole plant, particularly when in flower, has a strong smell of Elder.

The fine blue colour which the *Dogs Mercury* acquires in drying, has induced several persons to believe, that the plant, if properly treated, might be made, as well as many others, to produce Indigo: this induced Mr. MACINTOSH, an ingenious young gentleman of Glasgow, to make the following chemical analysis of it, with which he was so obliging as to favour me; and though it does not come under the proper plant, we apprehend no apology will be necessary for inserting it here.

“ The whole plant, on being put into water, gives out a fine blue colour, which is immediately changed
“ into a green by the addition of an alkali; but an acid has not the power of changing its colour into red,
“ as it does most blue liquors, it only weakens the blue, and if a large quantity be added, it nearly destroys
“ it. The whole plant, on being dried, assumes a blue colour, which it gives out readily to water; but in
“ all cases, if a boiling heat be used, it only acquires a deep dirty green, which changes gradually into a
“ brownish red. Upon agitating violently the blue liquor, I always found it was changed into a brown
“ colour, the blue being entirely lost, and not to be recovered by any means I could fall upon. There falls
“ during this process, a small quantity of precipitate, which is also brown. If the blue liquor be evaporated,
“ the whole is likewise changed into the same brownish colour, and a similar precipitate falls, which, on
“ being put into water, gives it a dark red colour. Newly-slacked lime put into the blue liquor, first
“ changes it into a green, which is very soon after destroyed. I have observed in the beginning of the
“ evaporation, a blue fecula upon the sides of the vessel, but always before the end of the process, the whole
“ was of the brownish colour mentioned above.”





Mercurialis perennis

MERCURIALIS PERENNIS. DOGS MERCURY.

MERCURIALIS *Linnaei Gen. Pl. DIOECIA ENNEANDRIA.*

MASC. Cal. 3-partitus. Cor. o. Stam. 9-s. 12. Antheræ globosæ, didymæ.

FEM. Cal. 3-partitus. Cor. o. Styli 2. Caps dicocca, 2-locularis. 1-sperma.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALA POTIUS.

MERCURIALIS *perennis* caule simplicissimo foliis scabris. *Linnaei Syst. Vegetab. Sp. Pl. 1465.*

MERCURIALIS caule perenni simplici, foliis ovato-lanceolatis hirsutis. *Haller hist. helv. n. 1601.*

MERCURIALIS *Cynocrambe. Scopoli Fl. Carniol. p. 266. n. 1225.*

MERCURIALIS *perennis* repens *Cynocrambe* dicta, *Raii Syn. p. 139. Hudson Fl. Angl. p. 371.*

MERCURIALIS montana testiculata et *Mercurialis* montana spicata. *Bauhin. pin. 123.*

MERCURIALIS sylvestris *Cynocrambe* dicta vulgaris mas et femina. *Parkinson 295.*

CYNOCRAMBE mas et femina. *Gerard emac. 333. Oeder Fl. Dan. 400.*

RADIX perennis, repens, alba, fibrosissima.

CAULIS erectus, simplex, pedalis, foliosus, inferne nudus, teres, alterne anceps.

FOLIA opposita, ovato-acuta, petiolata, hirsutis scabriuscula, serrata, serraturis obtusiusculis, glandulâ albâ ad lentem conspicua terminatis.

STIPULÆ duæ, parvæ, acutæ, caulis utrinque ad basin petioli.

PEDUNCULI versus summum caulis prodeunt, oppositi, axillares, hirsuti, in maribus caulem superant in feminis intra folia reconduntur.

FLORES feminei pauci, masculi plures, sessiles, glomerati et verticillati quasi caulem semiamplectuntur.

FEMINA.

CALYX: PERIANTHIUM tripartitum, laciniis ovato-lanceolatis, suberectis, *fig. 1, 2.*

COROLLA nulla.

NECTARIA acumina duo subulata ad singulum latus germinis singula.

PISTILLUM: GERMEN subrotundum, compressum: STYLI seu potius STIGMATA dua, acuta, reflexa, *fig. 4.*

PERICARPIUM: CAPSULA subrotunda, didyma, bilocularis, *fig. 5, 6.*

SEMEN solitarium, subrotundum, purpureo-fuscum, *fig. 7.*

M A S.

CALYX: PERIANTHIUM ut in femina.

STAMINA: FILAMENTA novem plerumque, capillaria, recta, longitudine calycis: ANTHERÆ globosæ, didymæ, primo flavæ, mox cœrulecentes, *fig. 3.*

ROOT perennial, creeping, white, and very fibrous.

STALK upright, simple, a foot high, leafy, naked below, round, slightly winged alternately.

LEAVES opposite, oval, pointed, standing on foot-stalks slightly hairy and rough to the touch, serrated; the teeth bluntish, and terminated by a whitish gland, visible only by a magnifier.

STIPULÆ two, small, pointed, on each side the stalk at the base of the foot-stalk.

FOOT-STALKS of the flowers proceed from the bottoms of the leaves near the top of the stalk, are opposite and hairy; in the male plant they are longer than the stalk; in the female they are hid among the leaves.

FLOWERS in the female few; in the male numerous, sessile, growing somewhat whirl-like in little clusters, and half surrounding the stalk.

F E M A L E.

CALYX: a PERIANTHIUM divided into three segments, which are oval, pointed, and somewhat erect, *fig. 1, 2.*

COROLLA wanting.

NECTARY two small pointed filaments, one on each side the germen.

PISTILLUM: GERMEN roundish and somewhat flattened: STYLES, or rather STIGMATA, two, pointed and turning back, *fig. 4.*

SEED-VESSEL: a roundish double CAPSULE of two cavities, *fig. 5, 6.*

SEED: one in each cavity, roundish, of a brownish purple colour, *fig. 7.*

M A L E.

CALYX: a PERIANTHIUM the same as the female.

STAMINA: nine FILAMENTS, for the most part, capillary, straight, the length of the calyx: ANTHERÆ round, double, first yellow, afterwards becoming bluish.

IN the third edition of *RAI'S Synopsis*, SIR HANS SLOANE communicates a very particular account of the pernicious effects of this plant. It was, as it appears from thence, gathered by the mistress of a family, in the fields, (*in agris* are the words,) fried with bacon, and eaten for supper by the wife, the husband, and three children; the children in about two hours awaked out of their sleep violently sick; on being removed to the fire they both vomited, and purged, and in about half an hour afterwards they again fell a sleep: two of them continued in this state of stupor for twenty-four hours, when they awaked, and after more copious evacuations recovered. The third child awaked not till the third day, and then just opening its eyes, was seized and carried off by convulsions. The man being of a robust constitution was not so violently affected; but after a longer sleep than usual, went about his business, feeling no other inconvenience than a burning heat in his chin, to assuage which he was obliged for the whole day to apply cold water. The woman, after being more than usually oppressed with sleep, found her self ill, and did not recover for several days.

From

From so circumstantial an account, it would appear that there was little doubt of the noxious quality of this plant to the human species; yet it is remarkable, that this should be the only instance of such effects mentioned by authors, when the plant has by many been recommended as a pot herb: such violent effects do not appear to have been known to the antients, by some of whom it is recommended as a laxative medicine.

It appears to be well worth ascertaining whether it really possesses those poisonous qualities; whether it be noxious early in the spring, or later in the summer; and whether it looses them in boiling.

LINNEÆUS, in his *Flora Suecica*, mentions it as being hurtful to Sheep. These useful animals are sometimes found to all appearance poisoned by eating some particular plant, which the farmer would do well to discover.

As many poisonous plants, under proper management, prove highly beneficial to mankind, so it is not improbable but this plant also might make ample amends.

It has been observed by many, that those plants which change blue in drying, will generally dye blue: this is remarkably the case with this plant, nearly as much so as with the *Polygonum Tinctorium*, sent to England from China by the late ingenious and indefatigable Mr. BLAKE, whose untimely death every sincere friend to this country must deplore: and was it to undergo a proper management, it is probable that it would produce an Indigo somewhat similar.

The *Dogs Mercury* grows plentifully in most woods and under hedges, flowering from the end of March to the middle of May. It has a strong creeping perennial root like *Couch-grass*, whereby it may be readily distinguished from the annual *French Mercury*.

The antients have taken notice that this plant was of two sexes; but they mistook the female for the male. The cultivation of the Date-bearing Palm furnished the *Egyptians* with the first observations on the sexes of plants. The fruit of the female was of the utmost importance, as it supplied many of them with the principal part of their food. The inhabitants of countries where Palms grew naturally, might eat the fruit regardless of their manner of fructification; but when other countries, that were destitute of this ample provision of nature, attempted to transplant and cultivate Palms, they must necessarily have been obliged to attend to the two kinds, the male and the female, as the first bore no fruit, and the latter would prove barren if it was removed too far from the male.

It does not appear that the *Jews* were acquainted with the sexes of Palms, although they are often mentioned in the Bible as growing in *Judea*: but it was well known to THEOPHRASTUS, who describes the method of impregnating the female bloom with the farina of the male, in the same manner as modern travellers have seen it performed.* But although it is now two thousand years since this author wrote, yet no progress was made in demonstrating the sexual system of plants until this present century; before which time, all the writers on botany, instead of ascertaining what plants were of different sexes, mention male and female oaks, and other kinds of trees, that have both male and female bloom, on the same plants.

The utility of this kind of knowledge appears in the management of the Date-bearing Palm: for want of attending to it, the cultivators of hemp frequently meet with considerable disappointments: and it is probable that the planters of hops, by their custom of destroying the male plants, may also be sufferers.

We do not remember that any of the early poets have mentioned the different sexes or mutual love of trees. CLAUDIAN, who was well acquainted with *Egypt*, has very happily introduced it in his description of the beautiful retreat of *Venus* in the *Island of Cyprus*.

“*Vivunt in Venerem frondes, omnisque vicissim*
“*Felix arbor amat, nutant ad mutua palmæ*
“*Fœdera, populeo suspirat populus ic̃tu*
“*Et platana platanis, alno assibilat alnus.*”

“*Branches on branches twin'd compose the grove,*
“*And shoot, and spread, and blossom into love:*
“*The trembling palms their mutual vows repeat,*
“*And bending poplars bending poplars meet:*
“*The distant platanes seem to press more nigh,*
“*And to the sighing alders alders sigh.*”

EUSDEN.

The reader will determine how far this translation deserves the censure that it lies under, and whether the following passage that accompanies it is worthy of its author: “*As flowers, which are the lowest of vegetation, are the most gaudy, and do many times grow in great plenty at the bottom of ponds and ditches.*” Art of sinking in Poetry, published by POPE.

*Vid. HASSELQUIST.





Holcus mollis.

HOLCUS MOLLIS. CREEPING SOFT-GRASS.

HOLCUS *Lin. Gen. Pl.* POLYGAMIA MONOECIA.

HERMAPHROD. *Cal.* Gluma 1-f. 2-flora. *Cor.* Gluma aristata. *Stam.* 3.
Styli 2. *Sem.* 1.

MASC. *Cal.* Gluma 2-valvis. *Cor.* o. *Stam.* 3.

HOLCUS *mollis* radice repente, geniculis villosis, aristâ extra spiculam productâ.

HOLCUS *mollis* glumis bifloris nudiusculis: flosculo hermaphrodito mutico; masculo aristâ geniculata.
Lin. Syst. Veget. p. 760. *Sp. Pl. p.* 1485.

GRAMEN caninum longius radicatum majus et minus. *Bauh. Pin.* 1.

GRAMEN paniculatum molle, radice graminis canini repente. *Morif. Hist.* 3. *p.* 202.

GRAMEN caninum paniculatum molle. *Raii Hist.* 1285. *Scheuchz. Agrost. p.* 235. *Vaill. Paris. p.* 87.

GRAMEN miliaceum aristatum molle. *Raii Syn. p.* 404. *Hudson. Fl. Angl. ed. 2. p.* 440. *Lightfoot Fl. Scot. p.* 631. *Schreb. Agrost. t.* 20.

RADIX perennis, tritici canini instar repens.

CULMI sesquipedales et ultra, sæpius erecti, foliosi, nodosi, geniculis albis, lanatis, culmi etiam steriles occurrunt ad terram magis reclinati, foliis crebrioribus, alternis, lanceolatis, vestiti.

FOLIA ad tres vel quatuor lineas lata, molli villo pubescentia, membranâ ad basin folii alba, obtusa, vagina striata, subcarinata, villosa.

PANICULA biuncialis, erecta, instante anthesi diffusa, demum coarctata.

RAMULI paniculæ purpurascens, pilosi.

SPICULÆ bifloræ etiam trifloræ, *fig.* 3, 4. albidæ seu parum purpurascens, flosculis omnibus hermaphroditis.

CALYX: gluma bivalvis, utrinque ciliata, ceteroquin nuda, valvula alterâ majore et paulo longiore, trinerve, nervis obscure viridibus, *fig.* 1, 2.

COROLLA: bivalvis, valvulis longitudine subæqualibus, basi pilosis, viridibus, exteriore majore, glabra, gibbosa, interiore plana ad lentem subnervosa, hispidula, e dorso majoris valvulæ superioris flosculi exurgit aristâ spicula longior primo recta, demum tortilis, geniculata, *fig.* 3, 4.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, flavæ, utrinque bifurcæ, *fig.* 5.

PISTILLUM: GERMEN subrotundum, nitidum, minimum. STYLI duo, plumosi, *fig.* 6.

NECTARIUM: glumulæ duæ, lanceolatæ, ad basin germenis, *fig.* 7.

SEMINA duo, nitida, ovato-acuta, altera aristata, altera mutica, glumis calycinis inclusa, *fig.* 8.

ROOT perennial, creeping like the garden couch-grass.

STALKS a foot and a half or more in height, most commonly upright, leafy, jointed, the joints white and woolly, stems also arise producing no spikes, inclined more to the ground, and covered with more numerous, alternate, lanceolate leaves.

LEAVES three or four lines in breadth, covered with soft short hairs, the membrane at the base of the leaf white and obtuse, the sheath striated, somewhat keeled and villous.

PANICLE two inches in length, upright, during the flowering spread out, afterwards closed up.

BRANCHES of the panicle purplish and hairy.

SPICULÆ containing two, sometimes three flowers, *fig.* 3, 4. whitish, or slightly tinged with purple, all the florets hermaphrodite.

CALYX: a glume of two valves, edged on both sides with hairs, otherwise naked, one of the valves larger and a little longer than the other, having three ribs, of an obscure green colour, *fig.* 1, 2.

COROLLA of two valves, the valves nearly equal in length, hairy at bottom, of a green colour, the outermost largest, smooth, and gibbous, the innermost flat, somewhat ribbed when magnified, and a little hispid, from the back of the largest valve of the uppermost flower arises an awn, longer than the spicula, at first straight, lastly twisted and bent, *fig.* 3, 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, yellow, forked at each end, *fig.* 5.

PISTILLUM: GERMEN roundish, shining, very small. STYLES two, feathery, *fig.* 6.

NECTARY: two, small, lanceolate glumes at the base of the germen, *fig.* 7.

SEEDS two, shining, ovate, pointed, the one bearded, the other naked, inclosed within the glumes of the calyx, *fig.* 8.

Notwithstanding this grass has been well named and described by some of the older Botanists, particularly MORISON and RAY, its characters do not appear to be generally well understood. Baron HALLER considers it as too nearly related to the *lanatus*, to be with propriety considered as a distinct species; and Mr. LIGHTFOOT, in his *Flora Scotica*, entertains similar doubts.

We have cultivated the two in separate beds, close to each other, for several years; have noticed them with a marked attention, where they have grown wild; and, from a variety of characters, are led to consider them as perfectly distinct.

The most striking of these characters we shall here enumerate. In the first place they differ widely in their natural places of growth: while the *lanatus* is most commonly found in meadows and pastures, the *mollis* rarely occurs but in woods and its environs. We have, indeed, frequently found the *lanatus*, which is by far the most general grass of the two, in a wood; but we never recollect seeing the *mollis* in meadows or pastures, and but rarely in corn-fields, where it has been said chiefly to grow. *Coomb Wood* in particular affords a strong instance of its attachment to shady situations. Contrary to what some authors assert, we have ever found the *mollis* the least plant; or, if it has been observed equally tall as the other, it has produced by far the most scanty panicle; nor do the spiculæ, in general, assume that brilliant colour which so eminently distinguishes those of the *lanatus* on their first coming out. But the character which puts its being a species out of all doubt, is its root; that of the *lanatus* does not creep, while the *mollis* possesses that property in a degree equal to the strongest couch-grass. The other characters which strikingly distinguish this species are its woolly joints and its large pointed spiculæ, in which the beard, or awn, is invariably much longer than the glumes of the calyx.

In speaking of the *lanatus* we took notice of the impropriety of separating that grass from the general mass, because one of the flowers in each spiculæ was imperfect*. The fructification of the present species argues more strongly for its union with the others: here both flowers are hermaphrodite, both have stamina and feathery styles, and both produce apparently perfect seeds. Indeed we can perceive no character to distinguish it from an *aira*, to which genus it perhaps with propriety belongs.

SCHREBER's figure gives a good representation of the panicle when closed, but neither represents the joints or root well.

As we consider the *Holcus lanatus*, which is much to be preferred to the present species, as a very indifferent grass for cattle, so we cannot but look on the *mollis* as one of the worst species of couch; and, if it should ever become a practice to sow certain woods with grass seeds, this species ought surely to be eradicated.

It flowers in July.

* SCOPOLI, from a circumstance of this sort, has in our opinion absurdly enough placed the *Avena elatior* with the *Holcus*.







Holcus lanatus.

HOLCUS LANATUS.

MEADOW SOFT-GRASS.

HOLCUS *Lin. Gen. Pl.* POLYGAMIA MONOECIA.

HERMAPHROD. *Cal.* Gluma 1 five 2 flora. *Cor.* Gluma aristata. *Stam.* 3. *Styli* 2. *Sem.* 1.

MASC. *Cal.* Gluma 2-valvis. *Cor.* o. *Stam.* 3.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

HOLCUS *lanatus* glumis bifloris villosis: flosculo hermaphrodito mutico; masculo arista recurva. *Lin. Syst. Vegetab.* p. 760. *Sp. Pl.* 1485. *Fl. Succ.* n. 917.

AVENA diantha, floribus ovatis; perfecto mutico, imperfecto aristato. *Haller. hist.* n. 1484.

HOLCUS *lanatus.* *Scopoli Fl. Carn.* n. 1238.

GRAMEN pratense paniculatum molle. *Baub. pin.* 2.

GRAMEN miliaceum pratense molle. *Pet. Conc. Gr.* 224. *Raii Syn.* p. 404. Soft-tufted Meadow-Grass.

Hudson. Fl. Angl. ed. 2. p. 440. *Lightfoot. Fl. Scot.* p. 631.

RADIX perennis, fibrosa, minime repens.

CULMI plures, bipedales, seu tripedales, raro ultra, erecti, quatuor communiter geniculis distincti, pubescentes, teretes, in quibusdam locis ad basin radicanter.

FOLIA pilis mollibus undique vestita, incana, tres lineas lata, plana, superne striata, inferne carinata; vagina lineis purpureis externe notata, interne nitida; membrana obtusa, externe pilosa, pilisque ciliata.

PANICULA primo spiciformis, mollis, laxis, rubellus, parum nutans, dein erecta, diffusa, albida.

SPICULÆ bifloræ, albidæ, villosulæ, versus apicem coloratæ.

CALYX: Gluma bivalvis, valvula exteriore majore, trinerve, interiore mucronata, minore carinata. *fig. 1. auct.*

FLOS FERTILIS.

COROLLA bivalvis, valvulæ teneræ, virides, nitidæ, muticæ, valvulâ exteriore majore. *fig. 2.*

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ oblongæ, bifurcatæ, flavæ. *fig. 5.*

PISTILLUM: GERMEN obovatum; STYLI duo, ad basin usque ramosi. *fig. 6.*

SEMEN parvum, acuminatum, nitidum glumis corollæ tectum. *fig. 9.* et valvulis calycis inclusum. *fig. 8.*

FLOS STÉRILIS.

COROLLA bivalvis, valvulæ minores, exteriore aristata, arista e dorso valvulæ erumpente, longitudine valvulæ exterioris calycis. *fig. 3, 4.*

STAMINA ut in fertili. *fig. 5.*

PISTILLUM: Germen ut in fertili, sed multo minus; STYLI duo, subulati, simplices. *fig. 7.*

SEMEN minimum, abortivum.

ROOT perennial, fibrous, not at all creeping.

STALKS several, from two to three feet high, seldom higher, upright, generally furnished with four joints, downy, round, in some situation taking root at the bottom.

LEAVES covered on every part with soft hairs, which give them a greyish appearance, about three lines in breadth, flat, above striated, below keeled, the sheath marked externally with purple lines, internally shining; the membrane blunt, externally hairy, and edged with hairs.

PANICLE at first forms a kind of soft, loose, reddish spike, which droops a little, afterwards becomes upright, spreading and whitish.

SPICULÆ containing two flowers, whitish, somewhat villous, coloured towards the top.

CALYX: a Glume of two valves, the outer one largest, having three ribs, and terminating in a point, the inner one smaller and keeled. *fig. 1. magnif.*

FERTILE FLOWER.

COROLLA composed of two valves which are tender, green, shining, and pointless, the outer valve largest. *fig. 2.*

STAMINA: three capillary FILAMENTS; ANTHERÆ oblong, forked at each end, of a yellow colour. *fig. 5.*

PISTILLUM: GERMEN inversely ovate; STYLES two, branched quite down to the bottom. *fig. 6.*

SEED small, pointed, and shining, covered by the glumes of the corolla, *fig. 9.* and inclosed in the valves of the calyx. *fig. 8.*

BARREN FLOWER.

COROLLA composed of two valves, the valves small, the outer one bearded, the awn arising from the back of the valve, the length of the outer valves of the calyx. *fig. 3, 4.*

STAMINA as in the fertile flowers. *fig. 5.*

PISTILLUM: the Germen as in the fertile flower, but much less; STYLES two, tapering, and simple. *fig. 7.*

SEED very minute and abortive.

The *Holcus Lanatus* abounds in most meadows, is frequently found by road-sides, and sometimes on walls, so that it will thrive in almost any situation. The redness of its panicle when just opening, joined to the softness and hoariness of its leaves, render it a very conspicuous grass.

HALLER speaks highly of it as food for cattle, calling it *optimum pabulum*. We cannot coincide with him in this opinion, nor do the generality of our intelligent farmers and graziers, who condemn it as too soft and woolly; nevertheless the seed of it (being easily collected) is sometimes sent up to London in great quantities, and sold for pure grass-seed: but it were better to lay down ground for meadow or pasturage in the usual way, than fill it with this unprofitable, though pure grass-seed.

Mr. LIGHTFOOT informs us in his *Fl. Scot.* that it is sometimes used to make ropes for the fishing-boats.

It is a very distinct species from the *Holcus Mollis* (as we shall particularly explain when we treat of that grass), and flowers in June and July.

One cannot but lament that LINNÆUS should have separated the *Holcus* from the other grasses, with which it has so great an affinity, and have placed it among the plants of the class *Polygamia*, merely because some of its flowers were imperfect; it frequently happening, as HALLER very justly observes, that the *Triticum*, *Hordeum*, and several other grasses, are in the same predicament; and it was the less necessary here, as there is an evident pistillum in the barren flowers, though an imperfect one. *Vid. fig. 7.*







Parietaria officinalis

PARIETARIA OFFICINALIS. PELLITORY OF THE WALL.

PARIETARIA *Lin. Gen. Pl. POLYGAMIA MONOECIA.*

HERMAPHROD. *Cal. 4-fidus. Cor. o. Stamina 4. Styl. 1. Sem. 1. superum, elongatum.*

FEM. *Cal. 4-fidus. Cor. o. Stam. o. Stylus 1. Sem. 1. superum, elongatum.*

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

PARIETARIA *officinalis* foliis lanceolato-ovatis, pedunculis dichotomis, calycibus diphyllis. *Lin. Syst. Vegetab. p. 763. Sp. Pl. p. 1492.*

PARIETARIA foliis elliptico-lanceolatis, hirsutis. *Haller. Hist. p. 162.*

PARIETARIA *officinalis. Scopoli Fl. Carn. n. 1242.*

PARIETARIA officinarum et Dioscoridis. *Baub. pin. 121.*

HELXINE *Camerar. Epit. p. 849.*

PARIETARIA *Ger. emac. 331. vulgaris Parkinsf. 437. Raii Syn. p. 158. Pellitory of the Wall. Lightfoot Fl. Scot. p. 635. Hudson Fl. Angl. ed. 2. p. 442. Oeder Fl. Dan. 1. 521.*

RADIX perennis, sublignosa, rubens, fibrosa.

CAULES plures, suberecti, dodrantes, pedales et ultra, ramulissimi, teretes, striati, solidi, rubentes, pubescentes; rami cauli similes, alterni, diffusi.

FOLIA alterna, petiolata, ovata, acuta, utrinque attenuata, integerrima, patentia, ad margines et venas subtus præcipue pubescentia, supra saturate viridia, lucida, subrugosa, punctis prominulis adspersa.

PETIOLI longitudine fere diametri foliorum, pubescentes, supra canaliculati.

FLORES parvi, herbacei, hirsuti, sessiles, in axillis foliorum conglomerati, hermaphroditi et feminei.

Hermaphroditi Flores duo continentur involucri heptaphyllo, persistente, foliolis ovatis, acutis planis, hirsutis, hirsutie glandulosa. fig. 1.

CALYX: PERIANTHIUM monophyllum, quadrifidum, planum, persistens. *fig. 9.*

COROLLA nulla, nisi calycem dicas.

STAMINA: FILAMENTA quatuor, alba, transversim rugosa, instante anthesi elastice resiliencia, calycemque expandentia; ANTHERÆ ovatae, obtusae, didymae; POLLEN album. *fig. 4.*

PISTILLUM: GERMEN ovatum, viride, nitidum, nudum; STYLUS filiformis; STIGMA penicilliforme, capitatum, ruberrimum. *fig. 6.*

PERICARPIUM nullum. *Perianthium elongatum, majus, campanulatum, coloratum, deciduum; ore laciniis conniventibus clauso. fig. 3.*

SEMEN unicum, ovatum, nitidum, in fundo perianthii.

Femineus flos unus inter hermaphroditos ambos, intra involucrium.

CALYX quadrifidus, hirsutus, erectus, germen involvens. *fig. 5.*

COROLLA nulla.

PISTILLUM ut hermaphroditi, at stigma majus et paulo inflexum. *fig. 5.*

PERICARPIUM nullum.

SEMEN unicum ut in hermaphrodito, calyce quadrifido et vix mutato inclusum. *fig. 7, 8.*

ROOT perennial, somewhat woody, of a red colour, and fibrous.

STALKS several, nearly upright, from nine inches to a foot or more in height, very much branched, round, striated, solid, reddish, and downy; branches like the stalks, alternate and spreading.

LEAVES alternate, standing on foot-stalks, ovate, pointed, tapering towards each extremity, entire at the edge, spreading, particularly downy at the edge and on the veins of the under-side, on the upper-side of a deep green colour, shining, somewhat wrinkled, and covered over with small prominent points.

LEAF-STALKS nearly the length of the diameter of the leaves, downy, hollowed above.

FLOWERS small, of a greenish colour, rough, sessile, growing in clusters in the axils of the leaves, hermaphrodite and female.

Two *Hermaphrodite Flowers* are contained in an *involucrium* composed of seven leaves, and permanent, the leaves ovate, pointed, flat, hirsute, the hairs glandular at the extremities. *fig. 1.*

CALYX: a PERIANTHIUM of one leaf, deeply divided into four segments, which are flat and permanent. *fig. 9.*

COROLLA none, unless the calyx be called so.

STAMINA: four FILAMENTS of a white colour, wrinkled transversely, on the shedding of the pollen flying back with an elasticity, and expanding the calyx; ANTHERÆ ovate, obtuse, double; POLLEN white. *fig. 4.*

PISTILLUM: GERMEN ovate, green, shining and naked; STYLE filiform; STIGMA forming a bright scarlet tuft. *fig. 6.*

SEED-VESSEL none. The *Perianthium* becoming elongated, larger, bell-shaped, coloured and deciduous; the mouth shut by the segments closing together. *fig. 3.*

SEED single, ovate, shining in the bottom of the perianthium.

One *Female flower* betwixt two hermaphrodite ones, within the involucrium.

CALYX divisible into four segments, hairy, upright, inclosing the germen. *fig. 5.*

COROLLA none.

PISTILLUM as in the hermaphrodites, but the stigma somewhat larger, and bent a little down. *fig. 5.*

SEED-VESSEL none.

SEED single, like that of the hermaphrodites, inclosed in the quadrifid calyx, which is but slightly altered. *fig. 7, 8.*

The

The flowers of the *Parietaria* are so small, and so difficult to investigate, that we need not wonder at their being described differently by different botanists; LINNÆUS's description, in his *Genera Plantarum*, accords best with our observations, his therefore we have adopted with some few alterations.

We find only two sorts of flowers on this plant, viz. hermaphrodite and female; of these, two hermaphrodite and one female blossom are generally placed together in one common involucre, the female blossom intermediate. To obtain a perfect idea of the manner in which the fructification is carried on, we must examine these flowers at a very early period of their expansion, we shall then find in each involucre three red stigmata, the two outermost of which belong to hermaphrodite flowers, whose stamina are not yet visible; the middle one, which is largest and most conspicuous, to the female. If we take a view of the same blossoms just at the time that the elastic filaments by their sudden expansion scatter the fertilizing dust of the antheræ, the styles and stigmata of the hermaphrodite flowers, visible before, will often be found wanting, and the germen left naked in the center of the flower; at this period of the blossoming, the segments of the calyx in the same flowers are nearly of the same length as the filaments, the style and stigma of the female blossom remain perfect, with its germen closely surrounded by a green, hairy calyx, which never expands: the blossoming period being now over, a considerable alteration takes place in the calyx of the hermaphrodite flowers, each is considerably elongated, becomes more tubular, assumes a redder colour, has its tips pressed down, and soon drops out of the involucre, in which it leaves no appearance of a seed; hence I was ready to conclude that these flowers, the imperfection of whose pistilla at a certain age had before been noticed, were certainly barren, but on opening them, I found in the bottom of each a seed perfectly similar to that produced by, and inclosed in the calyx of the female flower, which does not enlarge as the other does, but partaking more of the nature of a capsule, on pressure, divides at top into four parts, and contains a blackish shining seed.

It may seem a little extraordinary, that the imperfect hermaphrodite flowers of this plant should produce perfect seed; but we should consider that they are perfect at first, and that there always is a number of Antheræ belonging to flowers farther advanced bursting near them, from whose pollen they may probably be impregnated.

SCOPOLI describes male flowers on this plant, having a sessile, shining, oblong, and pointed Nectary; surely he must consider the imperfect germen in the hermaphrodite flowers as a Nectarium, otherwise he sees farther than any of his contemporaries.

The curious manner in which these flowers shed their Pollen, or fertilizing dust, is known to most botanists, but may be new to some of our readers; each filament has a peculiarity of structure which renders it highly elastic, there are four of them in number, on their first appearance they all bend inward; as soon as the pollen is arrived at a proper state to be discharged, the warmth of the sun, or the least touch from the point of a pin, will make them instantly fly back with a degree of force, and discharge a little cloud of dust. This process is best seen in a morning, when the sun shines hot on the plant, in July and August; if the plant be large, numbers will be seen exploding at the same instant.

The *Parietaria*, which takes its name from its place of growth, is frequently found on walls, and among rubbish, especially on the walls adjoining the Thames, both above and below Westminster-bridge, it is not a native of Sweden, or the more northern countries; this autumn the same degree of cold (viz. about 31 of Fahrenheit's thermometer) which stripped the mulberry of most of its leaves, destroyed the greatest part of its herbage.

MR. PHILIP MILLER (*vide Dict. ed. 6. 4to.*) asserts that the *Parietaria* which grows wild in England is the Pellitory with a Basil leaf, *Parietaria Ocymifolia* BAUH. Pin. *Parietaria judaica* LIN. and that the *officinalis* LIN. which he says grows naturally in Germany and Holland, was not in England till the year 1727, when he first introduced it; in this opinion Mr. MILLER stands alone, and there is the greatest reason to suppose that he is deceived, and the more so, as the remainder of his account, in which he says that "the seeds are difficult to collect, as they are thrown out of their covers as soon as they are ripe with an elasticity," shows extreme inattention.

As a medicinal plant more virtues appear to have been attributed to the *Parietaria* than it deserves; it has been ranked as an emollient, to which, in the opinion of FLOYER and CULLEN, it has no pretensions, as a diuretic it was an ingredient in the nephritic decoction of the late Edinburgh Dispensatory, which is omitted in the present; in this last intention the expressed juice has been given in the dose of three ounces.

MR. SOLE, Apothecary of Bath, well known to the Botanic World, for his extensive collection of indigenous plants, informs me that he has observed remarkably good effects from the juice of this herb in dropsical cases, in which other diuretics had failed; he converts the juice into a thin syrup, and gives two table-spoonfuls or more thrice a day.

MONSIEUR TOURNEFORT, speaking of the *Parietaria*, says, "Le sirop de Parietaire soulage fort les hydropiques." *Hist. des Pl. de Paris.* AURELIUS VICTOR informs us, that CONSTANTINE bestowed on the Emperor TRAJAN the name of *Parietaria*, because his statues and his inscriptions, like that herb, were found on all the walls of Rome. *Le Meme.*

It is recommended to be laid on the corn in granaries, for the purpose of driving away that destructive insect the Weevil. *Bradley's Farm. Direct. p. 122.*





Atriplex hastata

ATRIPLEX HASTATA. SPEAR-LEAVED ORACH.

ATRIPLEX *Linnaei*. Gen. Pl. POLYGAMIA MONOECIA.

HERMAPHROD. Cal. 5-phyllus. Cor. o. Stam. 5. Stylus 2-partitus. Sem. 1, depresso.

FEM. Cal. 2-phyllus. Cor. o. Stam. o. Stylus 2-partitus. Sem. 1, compressum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS.)

ATRIPLEX *hastata* caule herbaceo, calycis valvulis femineis magnis deltoideis sinuatis. *Linnaei. Syst. Vegetab. p. 764. Sp. pl. 1494. Fl. Suecic. n. 921.*

ATRIPLEX foliis triangularibus, basi producta, valvulis triangularibus, subasperis. *Haller hist. n. 1617.*

ATRIPLEX sylvestris folio hastato seu deltoide. *Raii Syn. p. 151, Wild Orache with a spear-pointed leaf.*

Hudson Fl. Angl. ed. 1. p. 337.

Lightfoot Fl. Scot. p. 636.

RADIX annua, simplex, fibrosa, albida.

CAULIS plerumque erectus, pedalis aut tripedalis, tetragonus, angulis obtusis, lateribus subfulcatis, ad geniculos tumidiusculus, laevis, purpureus, ad basin usque, ramosus; RAMI oppositi, inferiores longissimi, caulem ipsum interdum æquantes, ut plurimum procumbentes.

FOLIA ima triangularia, margine plus minusve dentata, farinâ subtus copiose adpersa, sæpe vero penitus glabra, opposita, petiolata, superiora ovato lanceolata, integerrima, alterna.

FLORES in summis caulibus et ramulis, in spicas angustas rubentes, digesti.

Flos hermaphroditus sterilis.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, marginibus membranaceis lacertis, *fig. 1.*

COROLLA nulla.

STAMINA: FILAMENTA quinque, calyce paulo longiora: ANTHERÆ subrotundæ, didymæ, rubræ, *fig. 3.*

PISTILLUM: GERMEN in centro flosculi minimum sterile.

Flos femineus.

CALYX: PERIANTHIUM diphyllum, foliolis ovato-acutis, erectis, granulis diaphanis obductis, *fig. 2.*

PISTILLUM: GERMEN ovatum, *fig. 6*: STYLI duo, etiam tres, filiformes, albi, *fig. 4, 5.*

PERICARPIUM nullum. Calycis valvæ magnæ, cordatæ, asperæ, inter se includentes semen, *fig. 7, 8.*

SEMEN unicum, orbiculatum, compressum, *fig. 9.*

ROOT annual, simple, fibrous, and of a whitish colour.

STALK generally upright, from one to three feet in height, four cornered, the angles obtuse, the sides somewhat grooved, a little swelled at the joints, smooth, of a purplish colour, and branched quite to the bottom: the BRANCHES opposite; the lowermost very long, sometimes almost equal with the stalk itself, and for the most part procumbent.

LEAVES on the lower part of the stalk triangular, with the edge more or less indented, sprinkled plentifully on the under side with meal, sometimes quite smooth, opposite, and standing on foot-stalks; the upper leaves oval, pointed, intire, and alternate.

FLOWERS disposed on the tops of the stalks and branches in narrow reddish spikes.

Hermaphrodite Flower sterile.

CALYX: a PERIANTHIUM of five leaves, which are oval and concave, the edges membranous and jagged, *fig. 1.*

COROLLA wanting.

STAMINA: five FILAMENTS a little longer than the Calyx: ANTHERÆ roundish, double, and of a red colour, *fig. 3.*

PISTILLUM: a very minute barren GERMEN in the center of the floscule.

Female Flower.

CALYX: a PERIANTHIUM of two leaves, which are oval, pointed, upright, and covered over with transparent grains or globules, *fig. 2.*

PISTILLUM: GERMEN oval, *fig. 6.* STYLES two, sometimes three, filiform and white, *fig. 4, 5.*

SEED-VESSEL none. Valves of the Calyx large, heart-shaped, rough, including the seed, *fig. 7, 8.*

SEED single, orbicular, and flattened, *fig. 9.*

BOTANISTS have happily divided the plants of this tribe into two Genera, each strikingly distinguishable by the particular form of its seed-vessels: without this division, great indeed would be the difficulty of investigating them.

The *Chenopodium* has hermaphrodite flowers only, which produce a seed contained within the calyx, composed of five leaves, which as the seed ripens, does not enlarge itself.

The *Atriplex* produces female blossoms, and male or hermaphrodite ones; the seed is contained within the calyx of the female blossom, which is composed of two leaves or valves, which increase as the seed becomes ripe; and in this state only, is it obviously distinguishable from the *Chenopodium*; for at the time of its flowering, so small are the female blossoms, as scarce to be distinguished without a magnifying glass.

The plant here figured, is one of the most common of this genus, and one of the most variable in nature. First it varies exceedingly according to its age, the person who had been accustomed to gather it in its young state, would scarce recognize it when far advanced: secondly, it varies according to its situation; on dunghills it grows very strong and luxuriant; by the road sides, it is a much weaker plant, and its branches long and procumbent; in wet places, it is apt to become much more upright, the leaves sometimes are very mealy on the under side, particularly when it grows on the sea shore; at other times they are altogether smooth: in general, the broad triangular leaf readily distinguishes this species: but on dunghills, a variety sometimes occurs with leaves not exactly corresponding to this figure, but approaching more to an oval, with an intire edge.

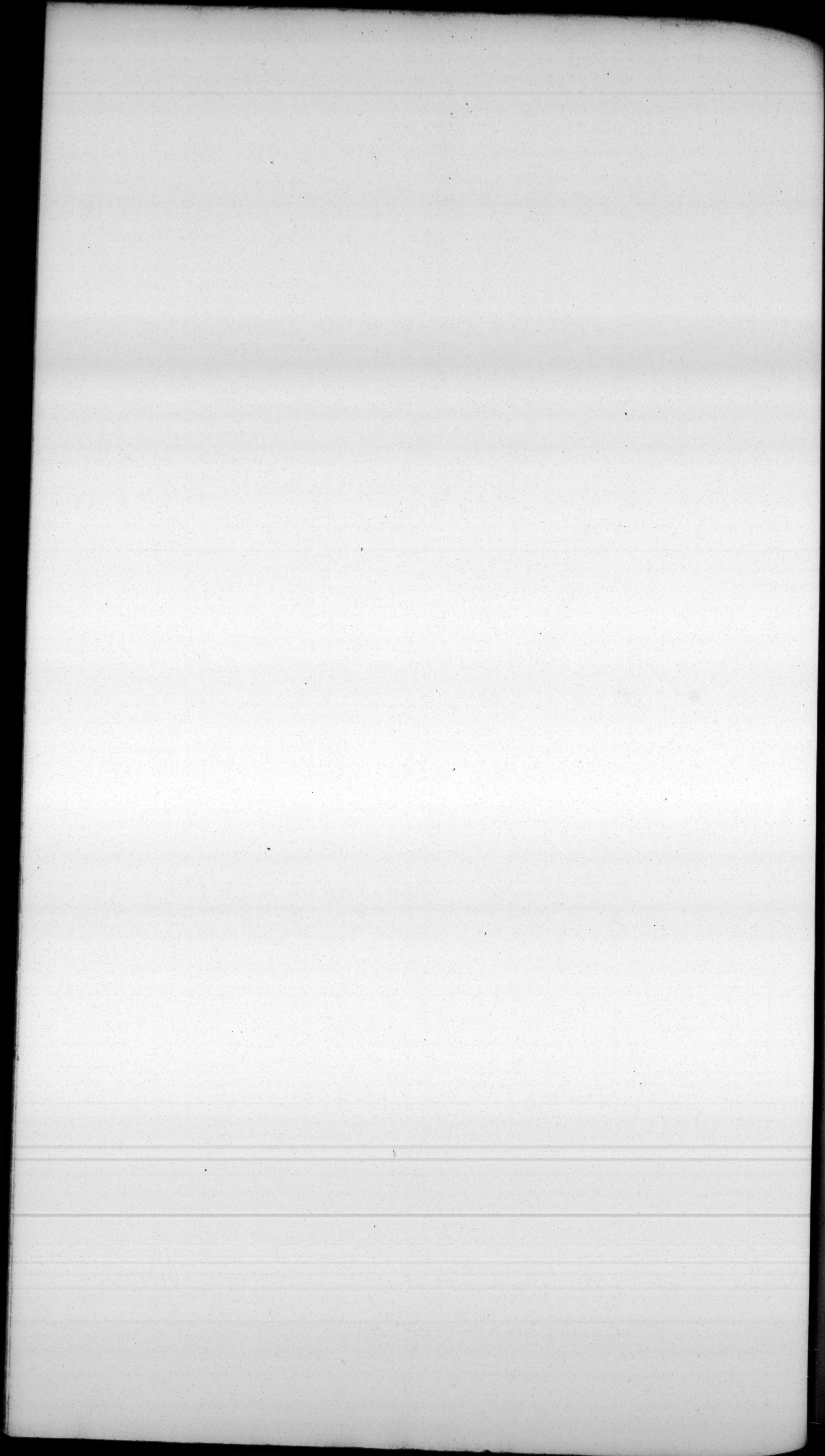
In its young state, this plant is frequently gathered under the name of *Fat-hen, Lambs-quarters, &c.* and eaten in lieu of Spinach and other greens.

Birds, particularly that mischievous one the sparrow, are very fond of the seeds of the *Orach's*. I have frequently had a plant of this Genus, stripped of its seeds by them in a very short time.

Cattle do not seem to be fond of it.

In the garden and cultivated ground, it is a very troublesome annual.

The farmer, as we have before hinted, would do well to weed his dung-heap of this and the other species, which are equally noxious.







Equisetum arvense.

EQUISETUM ARVENSE. CORN HORSE-TAIL.

EQUISETUM *Lin. Gen. Pl. CRYPTOGRAMIA FILICES.*

Spica fructificationibus peltatis, basi dehiscentibus, multivalvi.

Raii Syn. Gen. 4. HERBÆ CAPILLARES ET AFFINES.

EQUISETUM *arvense* scapo fructificante nudo; sterili frondoso. *Lin. Syst. Vegetab. p. 457. Sp. Pl. p. 1516. Fl. Suec. n. 928.*

EQUISETUM caule florifero nudo, sterili verticillato, radiorum duodecim. *Haller. Hist. n. 1676.*

EQUISETUM *arvense. Scopoli Fl. Carn. n. 1253.*

EQUISETUM *arvense* longioribus setis. *Baub. Pin. 16. Parkins. 1202. Raii Hist. p. 130. Corn Horse-tail.*

EQUISETUM *segetale. Ger. emac. 1114.*

HIPPURIS minor cum flore. *Dod. Pempt. p. 73.*

EQUISETUM minus terrestre. *I. B. III. 730. Hudson. Fl. Angl. ed. 2. p. 265. Lightfoot Fl. Scot. p. 647.*

RADIX	perennis, gracilis, nigra, articulata, insigniter reptans, fibris nigricantibus e geniculis exortis capillata.	ROOT	perennial, slender, black, jointed, exceedingly creeping, with tufts of black fibres springing from the joints.
SCAPI	feminiferi ante caules frondosos prodeuntes, et cito marcescentes, crassitie culmi triticei majoris, palmares aut dodrantes, erecti, nudi, lutescentes, geniculati, geniculis 2. 3. 5. vaginis multifidis, nervosis, membranaceis, circumvestiti.	STALKS	producing the seeds springing up before the leaf-stalks, and soon withering, the thickness of a large wheat-straw, a hand's-breadth or more in height, upright, naked, yellowish, jointed; joints from two to five, covered with membranous, ribbed sheaths, divided at top into numerous segments or teeth.
SPICÆ	feminiferæ terminales, oblongæ, obtusæ, unciales.	SEED-SPIKES	terminal, oblong, obtuse, about an inch in length.
CAPSULÆ	seu thecæ feminiferæ plurimæ, angulatæ, erectæ, circa receptaculum proprium collocatæ, et scuto orbiculato lutescente tectæ, fig. 1. demum introrsum dehiscentes et pulverem virecentem effundentes, fig. 2. 3. auct. fig. 4.	CAPSULES,	or seed-cases, numerous, angular, upright, placed together round a partial receptacle, and covered with a yellowish orbicular shield, fig. 1. finally opening inwardly, and throwing out a greenish powder, fig. 2. 3. magnified, fig. 4.
CAULIS	pedalis et ultra, in apricis obliquus, striatus, scabriusculus, geniculatus. Vaginæ numerosæ, denticulatæ.	STALK	a foot or more in height, in open situations oblique, striated, roughish, jointed. The Sheaths numerous and toothed.
FOLIA	verticillata, octo circiter in singulo verticillo, simplices, cauli simplices.	LEAVES	whirled, about eight in each whirl, simple, and like the stalk.

Experiment and observation, which have discovered perfect seeds, if not real Stamina and Pistilla, in some of the plants of this hidden class, have hitherto failed in ascertaining what the powder is, which is contained in such abundance in the spikes of the Horse-tail, different Botanists differing widely in their opinions concerning it. LINNÆUS and SCOPOLI consider it as the true seed of the plant: HALLER and ADANSON as the male dust; and so strongly was the last mentioned author of this opinion, that he removed it from the cryptogamous plants, and placed it with the family of the pines, from which, however, as SCOPOLI very judiciously observes, it differs *toto calo*.

We sat down to examine the fructification of this plant, in full expectation of finding Pollen not Seed contained in its cells. We conceived, *a priori*, that a substance so delicately formed, and so rapid in its growth, could scarcely produce capsules with ripe seeds; but we rose from our examination in the full belief of the powders being the real seed, so far as we could judge from its structure and æconomy: actual vegetation must however be proved, before we can arrive at certainty in this matter.

If a little of the powder be shaken out of the spike on a piece of white paper, a moderate magnifier discovers a motion in it, especially if it be breathed on. A similar motion is observed in the capsules of the Ferns when they throw out their seeds; and in the fine powder contained in the heads of the Jungermannia, if we apply a very considerable magnifier to this powder, we find its motion arise from a very different principle from that which actuated the two former. Here every particle of the powder has three or four, very rarely five, fine, pellucid threads, which are club-shaped at the extremity. These threads are elastic, and, by variously extending and curling themselves up, occasion the motion which is so perceptible. Monsr. ADANSON, who has minutely described this seed as pollen, compares the appearance it sometimes assumes to a spider with its legs stretched out. Although these motions, which are extremely singular and diverting, are plainly seen with a good magnifier, we never could discover the body of the seed to make any sort of explosion as Pollen would, under similar circumstances of exposure.

The proper time to examine this curious phenomenon is in April, when the plant produces its spikes.

The medicinal virtues of the Equisetum are too problematical to deserve notice. Writers on the *Materia Medica* rank it with the astringents.

The Farmer is deeply interested in a knowledge of this plant, as it is not only one of the most troublesome and difficult weeds to extirpate that we are acquainted with, but noxious even to cattle, especially kine. HALLER relates a particular case in which it proved fatal to a young heifer, by bringing on an incurable *Diarrhœa*.

Many parts of *Battersea Fields* exhibit this plant in perfection. It sometimes is found in meadows and under hedges; and, according to its situation, like all other plants, assumes a variety of appearances.

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Asplenium Scotopendrium.

ASPLENIUM SCOLOPENDRIUM. HARTSTONGUE.

ASPLENIUM *Lin. Gen. CRYPTOGAMIA FILICES.*

Raii Synopsis. HERBÆ CAPILLARES ET AFFINES.

ASPLENIUM frondibus simplicibus cordato-lingulatis integerrimis, stipitibus hirsutis. *Lin. Sp. Pl. 1537.*

ASPLENIUM Frondes lanceolatae, acuminatae, basi cordatae, integerrimae, medio latiores. *Scopoli Fl. Carn.*

ASPLENIUM petiolis hirsutis, folio longe lineari-lanceolato, integerrimo, circa petiolum excisso. *Haller, hist. n. 1695.*

HEMIONITIS Fuschii Icon. 294

PHYLLITIS vulgaris Clus. hist.

SCOLOPENDRIA vulgaris Tragi.

LINGUA CERVINA officinarum *Bauhin. pin. 350. Gerard. emac. 1138. Parkinson. 1846. Raii Synop. 116. Hudson. Fl. Angl. 384.*

RADIX perennis, fibrosissima, fusca, fibris fibrillis tenuissimis instructis.

STIPITES plures, pilosi.

FRONDES cordato-lingulatae, longitudine pedales, latitudine fere bipollicares, glaberrimae, margine undulato, nervo medio inferne piloso.

FRUCTIFICATIO. Glomera linearia, obliqua, in pagina inferiore frondis nervo medio utrinque seriatim disposita, *fig. 1. 2. 3.*

INVOLUCRUM. Squama linearis, bivalvis, longitudinaliter dehiscens, *fig. 2.*

CAPSULÆ numerosae, subglobosae, uniloculares, pedicellatae, annulo elastico cinctae, *fig. 5. 7. lente auctae.*

SEMINA numerosa, subrotunda, minutissima, *fig. 7. lente valde auctae, fig. 8.*

ROOT perennial, exceedingly fibrous; the fibres brown, and furnished with other fibres, which are very minute.

STALKS numerous and mossy, or hairy.

LEAVES tongue-shaped, at bottom cordate, about a foot in length, and one inch and a half in breadth, of a bright yellowish green colour and shining, the margin a little waved, and the mid-rib on the under side mossy.

FRUCTIFICATION placed in oblique lines on the under side of the leaf, on each side of the mid-rib, *fig. 1. 2. 3.*

INVOLUCRUM a linear membrane or case, of two valves, opening longitudinally, *fig. 2.*

CAPSULES numerous, standing on foot-stalks, nearly globular, surrounded by an elastic ring, and having one cavity, as they appear magnified, *fig. 5. 7.*

SEEDS roundish, very numerous and minute, *fig. 7. as they appear through a greater magnifier, fig. 8.*

THIS is one of those plants which some Botanic Writers have called *Epiphyllispermae* from producing their seeds on the back of the leaves; LINNÆUS, includes it in his class, *Cryptogamia*, as neither Stamina nor Pistilla have yet been discovered on it. The first appearance of fructification that we observe are some little bags or cases of a yellowish or whitish green colour placed in rows on the under side of the leaves; *fig. 1.* on opening of which almost as soon as they become visible, we find the capsules or seed-vessels, *fig. 2.* very numerous, standing upright, and close together; at this time they appear of a green colour, as they approach towards maturity they change this for a deep brown; the cases then open lengthways in the middle, the two sides, by the protrusion of the capsules are turned quite back, and wholly disappear, *fig. 3.* This membranous substance or case, may be considered as similar to the *Calyptra* in mosses, or *Calyx* in other plants, and serves to secure and defend the tender seed and capsules, which being now become ripe, exhibit a most striking proof of that wisdom which the benevolent Author of Nature manifests in all the works of his creation.

Each capsule or seed-vessel consists of three parts, first the foot-stalk, *fig. 4.* which supports and connects them to the leaf; secondly, the jointed spring, *fig. 5.* which nearly surrounds the third part, or cavity containing the seeds, *fig. 6. 7.*

The seeds being ripe, the cavity containing them is forced open by the elasticity of the jointed spring, and the seeds scattered and thrown to a considerable distance; one half of the cavity remains connected to one end of the spring, and the other half to the other end, *fig. 7.*

Some of the capsules being sooner ripe than others, discharge their seed sooner, so that it is a considerable time before they all become empty. On applying an entire row before the microscope for the first time, I was immediately struck with the motion that appeared in them, and afterwards found that the warmth of my breath occasioned a great number of the capsules to keep continually discharging their seeds, so as almost to give them the appearance of something alive. The closeness of the capsules to one another affording me but a confused idea of their structure, I separated them with the point of a penknife, from their connection to the leaf, and again placed them before the microscope, which then gave me a very different, and after a little examination, a very clear idea of their structure; many appeared with the seeds discharged, several in the act of discharging them, and some as yet entire; it frequently happened that while I was intently looking at one which I expected would open, at the instant of discharging it would be carried out of my sight by the strength and elasticity of the spring, and it was not till after repeated trials that I was able clearly to observe the manner of their opening. The seeds are very numerous, and scarcely visible to the naked eye; when magnified, they appear of a roundish figure, and full of little projecting points.

Both GREW and SWAMMERDAM have given figures on this subject, but those of SWAMMERDAM are by much the most natural. As a great deal of the satisfaction in viewing objects of this kind, depends on the kind, as well as goodness of the microscope, that none of my Readers may be disappointed in the experiments they may make with this entertaining instrument, I may inform them, that the microscope I make use of is that which is sold in the shops, by the name of ELLIS's *Aquatic Microscope*, and which is made for this purpose with particular care and accuracy by GEORGE ADAMS of Fleet-Street, Mathematical Instrument Maker to his MAJESTY.

This plant may be found in seed from *September to November* in shady lanes and on walls, and is frequently found growing within-side of old wells. It is met with but rarely about town, though cultivated in most of our botanic gardens. The leaves are subject from a richness of soil to be much divided at their extremities, and very much curled at the edges.

It is an officinal plant, and is recommended by RAY from his own experience, as a good medicine against convulsive disorders.

Asplenium scolopendrium Hartstongue

ASPIRINUM 100 GM. CRYSTOGRAMM 1000000

Rev. J. W. C. Carrington, Jr.

...and efficiency in the ...





Csmunda spicant

OSMUNDA SPICANT. ROUGH SPLEENWORT.

OSMUNDA *Linnæi* Gen. Pl. CRYPTOGRAMIA FILICES.

Spica ramosa: Fructific. globosis.

Raii Syn. Gen. 4. HERBÆ CAPILLARES ET AFFINES.

OSMUNDA *Spicant* frondibus lanceolatis pinnatifidis: laciniis confluentibus, integerrimis parallelis.

Linnæi Syst. Vegetab. p. 780. *Sp. Plant.* 1522. *Fl. Suecic.* n. 936.

STRUTHIOPTERIS, *Haller.* hist. n. 1687.

STRUTHIOPTERIS *Spicant.* *Scopoli* Flor. Carniol. n. 1258.

STRUTHIOPTERIS frondibus sterilibus pinnatifidis, pinnulis densis, oblongis falcatis; fructificantibus majoribus, laxius pinnatis, angustioribus. *Weis.* Cryptog. p. 287.

SPICANT Tragi et Germanorum.

LONCHITIS aspera minor. *Baubin* Pin. 359. *Parkinson* 1042.

LONCHITIS aspera. *Gerard* emac. 1140. *Raii* Syn. p. 118, Rough Spleenwort.

Oeder Fl. Dan. ic. 99.

Hudson Fl. Angl. 382. ed. 2. p. 450.

Lightfoot Fl. Scot. p. 634.

FRONDES steriles plures ex una radice fibrosa, in orbem dispositæ, semierectæ, aut reclinatæ, spithameæ, immo pedis longitudinem æquantes, *Polypodio vulgari* similes, simplices nempe et pinnatifidæ, pinnis densis, alternis, lanceolatis, oblongis, 2 lineas circiter latis, integerrimis, sursum curvis, mediis maximis, (uncialibus, sesquiuncialibus,) supernis et infernis brevioribus, nervosis, margine cartilagineo, subcrenato, retrorsum flexo.

STIPES five nervus medius inferne fuscis squamulis oblitus.

E medio centro harum frondium surgunt frondes fructificantes aliæ, etiam pinnatæ, at duplo illis longiores, graciliores, atro purpureæ, pinnis laxis alternis, lineam latis, mediis quoque longioribus, superioribus et inferioribus sensim decrecentibus, capsulis refertis.

CAPSULÆ dense coagmentatæ, duas lineas distinctas, marginibus parallelas efformant, et ab initio coloris sunt lutescentis, sensim per maturitatem fusci.

Fig. 1, Folium seu pinna cum capsulis auct.

Fig. 2, Capsula disrupta, cum annulo.

LEAVES: several barren leaves proceed from one fibrous root, orbicularly disposed, either half upright or reclining, from three inches to a foot in length, somewhat like the common *Polypody*, viz. simple and pinnatifid; the pinnae set closely together, alternate, lanceolate, oblong, about two lines broad, perfectly entire, bent upwards; the middle ones largest, (even an inch or an inch and a half in length;) the upper and lower ones shorter, ribbed, the edge cartilaginous, very slightly notched, and bent backward.

STALK or midrib, beset on its lower part with small brown scales.

From the center of these leaves arise other leaves bearing the fructifications, which also are pinnated, but twice as long, and more slender, of a dark purple colour; the pinnae loosely set, and alternate, a line in breadth, longest also in the middle, the upper and lower ones gradually decreasing, filled with capsules.

CAPSULES closely crowded together, forming two distinct lines parallel with the edges of the leaf, at the beginning of a yellowish colour, becoming brown as they ripen.

Fig. 1, one of the small leaves or pinnae, with the capsules magnified.

Fig. 2, a capsule burst open, with its ring.

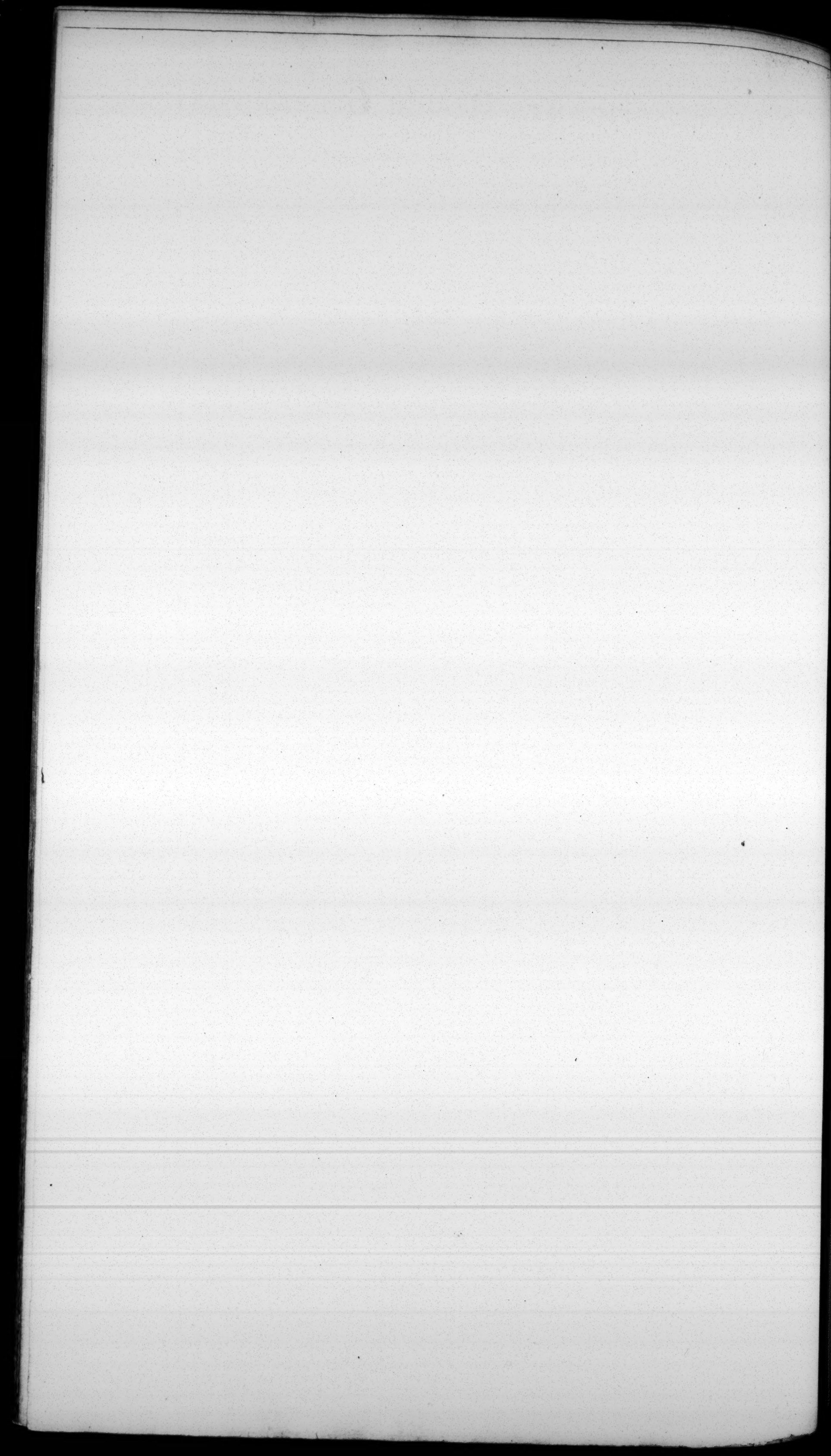
BOTANISTS appear much divided as to the genus of this plant; some considering it as an *Osmunda*, among whom is LINNÆUS; while others of great eminence contend for its being a *Struthiopteris*; of the latter opinion are HALLER, SCOPOLI, and WEIS.

The division of the *Ferns* into distant Genera, is perhaps as difficult a task as any in Botany. From the mechanism of the fructifications little is to be expected, as a great similarity seems to pervade the whole. The various modes in which the capsules are placed on the plant, in some of them are strikingly different, and appear to form very distinct and satisfactory characters; but when as a tribe, they come to be more minutely investigated, the characters of one are frequently lost in those of another, and a precise generic character is in vain sought for.

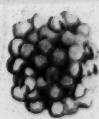
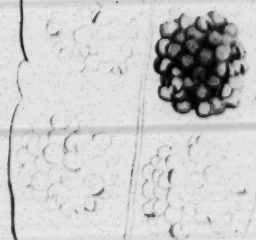
In the present doubtful case we have adopted the name of LINNÆUS.

The description of this plant given by WEIS, in his *Plant. Cryptog.* is so very accurate, that despairing of a better, we have in the present case adopted it; not however meaning to establish it as a precedent: from originality we shall never swerve in our figures, nor in our descriptions, but as seldom as possible; taking care that whenever we do, it shall not be to the prejudice, but rather advantage of the work.

The *Osmunda Spicant* grows plentifully in the environs of *Caen Wood*, near *Hampstead-Heath*, the seat of Lord Mansfield; and produces its fructifications in July, August, and September.







2 5



3

4

Polypodium vulgare



8



7



6

POLYPODIUM VULGARE. COMMON POLYPODY.

POLYPODIUM *Linnaei Gen. Pl.* CRYPTOGRAMIA FILICES.

Fructific. in punctis subrotundis sparsis per discum frondis.

Raii Syn. HERBÆ CAPILLARES ET AFFINES.

POLYPODIUM *vulgare* frondibus pinnatifidis : pinnis oblongis subserratis obtusis. *Linn. Syst. Vegetab.* p. 786. *Fl. Suecic.* p. 373.

POLYPODIUM foliis pinnatis, lanceolatis, radice squamata. *Haller hist. n.* 1696.

POLYPODIUM *vulgare.* *Scopoli Fl. Carniol. n.* 1266.

POLYPODIUM *vulgare.* *Baubin. pin.* 359.

POLYPODIUM *vulgare.* *Parkinson* 1039.

POLYPODIUM *Gerard emac.* 1138. *Raii Syn.* p. 117, Polypody. *Hudson Fl. Angl.* p. 387.

RADIX oblique sub terræ superficie reptat, fibras suas ex tuberculis quibus plurimis scatet demittens, ad crassitudinem fere minimi digiti accedens, squamis fuscis tecta, colore foris buxæ, intus fere herbacea, sapore dulci, tandem acerbo et adstringente.

ROOT creeps obliquely under the surface of the earth, sending forth a number of fibres from little tubercles, which are plentifully distributed over its surface, about the thickness of the little finger, sometimes slenderer, covered with brown mossy scales, externally of a pale yellow colour, internally greenish, of a taste at first sweet, but finally fowerish and astringent.

STIPITES læves, interne sulcati.

STALKS smooth, grooved on the inner side.

FRONDES semipedales aut pedales, pinnatifidæ, pinnæ oblongæ, subserratæ, obtusæ, inferne pallidiores.

LEAVES from half a foot to a foot in length, pinnatifid; the pinnæ oblong, slightly serrated, obtuse, paleish underneath.

CAPSULÆ in acervulis, magnis, flavis, rotundis, nervo utrinque seriatim locatæ, pedicellatæ, subrotundæ, superficie granulata a seminibus protuberantibus, annulo elastico brevi instructæ, in valvulas duas dehiscentes, *fig. 2, 3, 3, 5, 6.*

CAPSULES placed in a row on each side the midrib of the leaf, in large, yellow, round dots, standing on foot stalks, of a roundish shape, with the surface granulated from the seeds protuberating, furnished with a short elastic spring, and opening into two valves, *fig. 2, 3, 4, 5, 6.*

SEMINA plurima, ovata, aut subreniformia flava, *fig. 7, 8.*

SEEDS numerous, oval or somewhat kidney-shaped, of a yellow colour, *fig. 7, 8.*

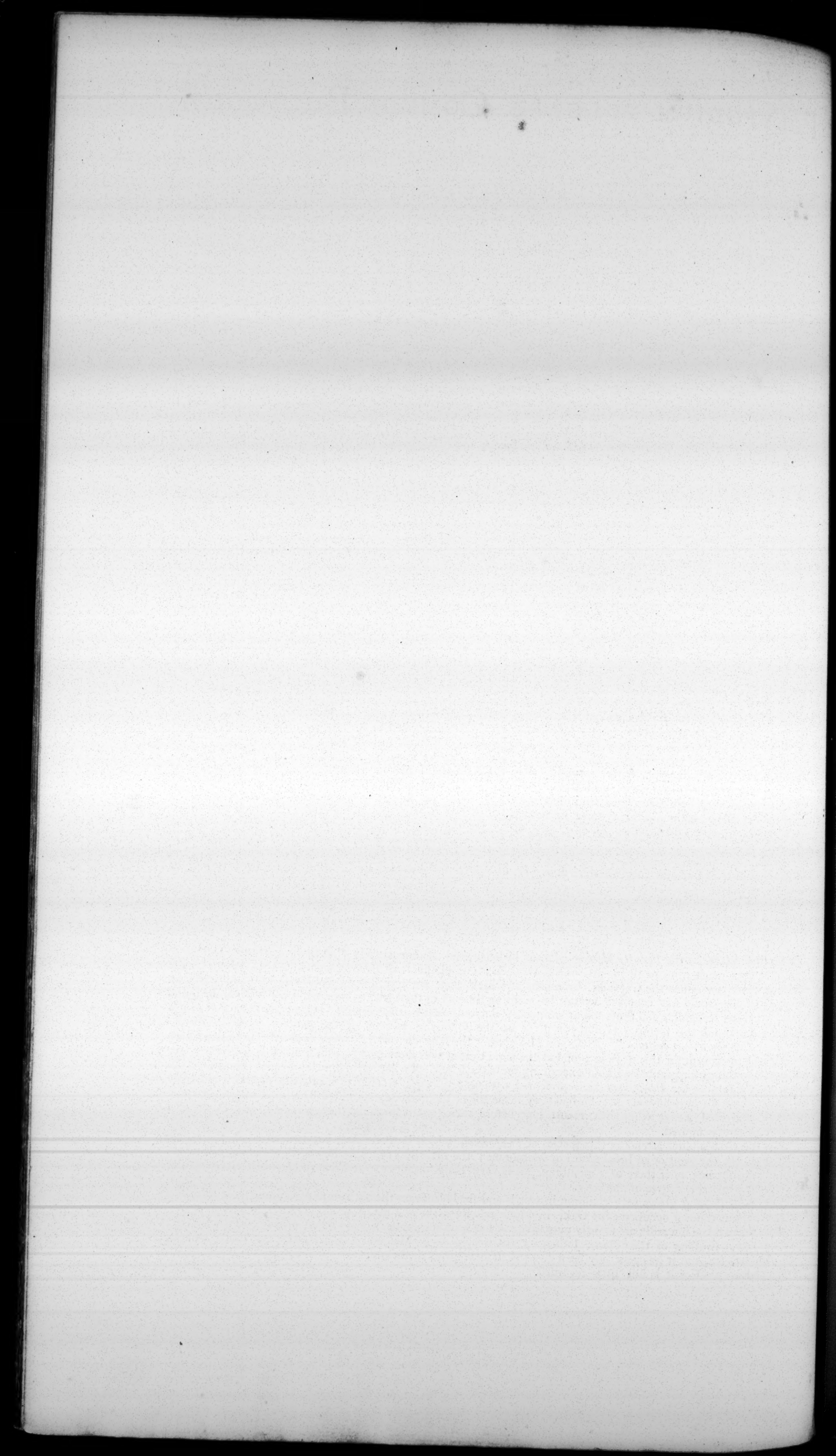
IN all those plants of the *Fern Tribe* which I have hitherto had an opportunity of examining, there appears to be much the same mechanism in their parts of fructification; one of the most striking and useful of which is the elastic ring which surrounds the Capsules, by means of which they are forced open and the seeds discharged. So necessary a part one should not conceive would be wanting in any of these plants, nor will it, I believe, be found to be so: yet many Botanists, and those too of eminence, not only deny its existence, but make the want of it a character to distinguish this Genus. GLEDITCH gives us the following as part of the generic character of the *Polypodium* "*Capsulæ annulo destitutæ.*" ADANSON also gives it the same character, "*sans anneau.*" It will perhaps not be difficult to account for this mistake; and at the same time it will shew us how injurious it is to science, for Authors to take things for granted without examining for themselves. In *TOURNEFORT's* elegant figures of the Genera, the Capsules of the *Polypodium* are represented without any ring: on the truth of these figures it is highly probable that those Authors have relied; for had they made use of their own eyes, assisted by a small magnifier, they could not have avoided seeing what MALPIGHI long before their time delineated, though rudely, and GLEICHEN since more elegantly figured.

There is one circumstance attending this species of *Polypodium*, which however does not run through the whole of this Genus, *viz.* the want of an Involucrum or Membrane; the little dots or assemblage of Capsules are not covered with any membrane; or if there be a membrane, it is very early deciduous, and not visible when the Capsules have arrived at a tolerable degree of maturity.

This species of *Polypody* grows very common in woods and shady lanes on the old stumps of various trees; it differs much in size: sometimes it occurs on the Oak, in which case its virtue as a medicine has been more celebrated.

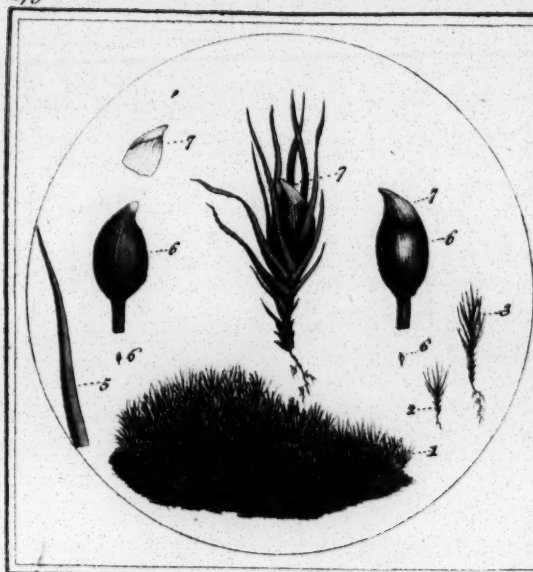
Its effects when taken inwardly are slightly purgative: it has been recommended in various disorders of the Viscera, in the Cachexy, swelling of the Spleen, Jaundice, obstructions of the Mesenteric Glands, Hypochondriac Disease, Cough, Asthma, &c, but it has generally been given with some other medicines.

In the present practice it is but little regarded.

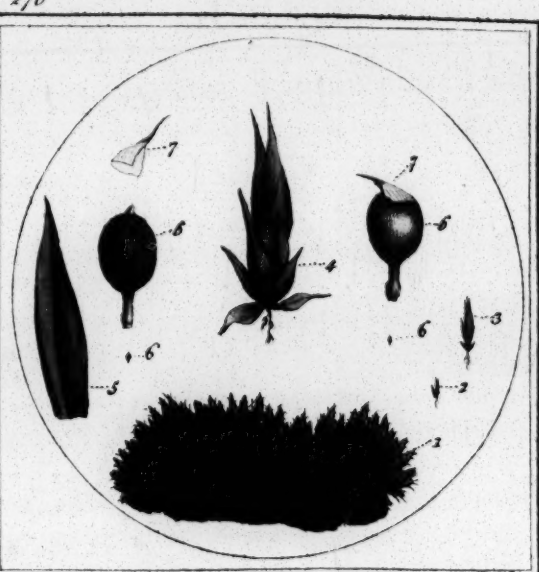




275

*Phascum subulatum.*

276

*Phascum acaulon.*

PHASCUM ACAULON. COMMON PHASCUM.

PHASCUM *Lin. Gen. Pl. CRYPTOGAMIA MUSCI.*

Calyptra minima. Operculum nullum.

Raii Syn. Gen. 3. MUSCI.

PHASCUM *acaulon* anthera sessili foliis ovatis acutis. *Lin. Syst. Veget. p. 794. Sp. Pl. 1570. Fl. Suec. 960.*

PHASCUM *cuspidatum* caulescens, foliis ovatis cuspidatis patulis: terminalibus erectis conniventibus. *Schreber. de Phasco. t. 1. f. 1, 2.*

SPHAGNUM *acaulon* foliis ovato-lanceolatis, pilo aristatis. *Haller. Hist. 1726.*

SPHAGNUM *acaulon* bulbiforme majus. *Dill. Musc. 251. t. 32. f. 11. Raii Syn. 105. Lightfoot Fl. Scot. p. 695. Hudson Fl. Angl. p. 466. Oeder Fl. Dan. t. 249. f. 1.*

PHASCUM SUBULATUM. HEATH PHASCUM.

PHASCUM *subulatum* acaule, anthera sessili, foliis subulato-fetaceis patulis. *Lin. Syst. Vegetab. p. 794. Sp. Pl. 1570.*

PHASCUM *subulatum* caulescens, foliis lanceolato-linearibus patulis. *Schreber de Phasco, p. 80.*

SPHAGNUM *acaulon* trichodes. *Haller. Hist. n. 1727. Dillen. Hist. Musc. 251. t. 32. f. 10. Oeder Fl. Dan. t. 249. Lightfoot Fl. Scot. p. 693. Hudson, Fl. Angl. p. 466.*

DILLENIUS, who drew the figures of his incomparable work on mosses, without using glasses of any considerably magnifying power, or, perhaps, without attending so much to the minutiae of the parts of fructification as the practice is at present, described these plants as *having no Calyptra*, and united them with the genus *Sphagnum*. LINNÆUS afterwards made a distinct genus of them, but without correcting the error of his predecessor. The following is the description of the genus *Phascum*, which he gives in the 6th edition of the *Genera Plantarum*.

Masculus flos subsessilis vel brevi pedunculo.

CAL. *Calyptra nulla.*

ANTHERA *ovalis ore ciliato, tecta operculo acuminato.*

RECEPT. *Apophysis nulla.*

Femineus flos.

Several Botanists afterwards describing and delineating the *calyptra*, LINNÆUS, in the 13th edition of his *Systema Naturæ*, published by MURRAY under the title of *Systema Vegetabilium*, alters it thus:

ANTHERA *operculata: ore ciliata. Calyptra caduca, minuta.*

This generic description, thus altered, is adopted by Mr. HUDSON, without any remarks on its inapplicability to the English *Phasca*. He should have informed us, that, however well the character might accord with any foreign *Phascum*, the English ones, at least both these here figured, which are the most common, have neither *Operculum* nor *Cilia*. Of this we are fully convinced from repeated examination; and have the pleasure of having our experiments confirmed by the accurate and ingenious SCHREBER, who, in his most excellent *Monographia, Observationes de Phasco*, has the following passages: "Suturam, qua plerorumque muscorum vascula infra apicem, ubi deinde operculum abscedit, cinguntur, in nulla hujus generis specie observare potui. Operculum enim Phascis in universum omnibus deest, et vasculum undique in extremum apicem usque clauditur, sine ullius determinatæ aperturæ vestigio, quamobrem compressum utcumque rumpi solet. Cilia igitur in quocumque Phasco frustra quærentur."

Again, speaking of the Capsule, he says: "Pecten in ea nullus adest nec ullam aperturæ cujusdam determinatæ aut foraminis, emissioni contentorum inservientis, vestigium reperire unquam potui. Non enim sponte aperitur, sed integra persistit; donec maxima foliorum pars putruerit, quod in *Ph. pilifero* sæpius observavi, aut e foliis apertis integra elabatur."

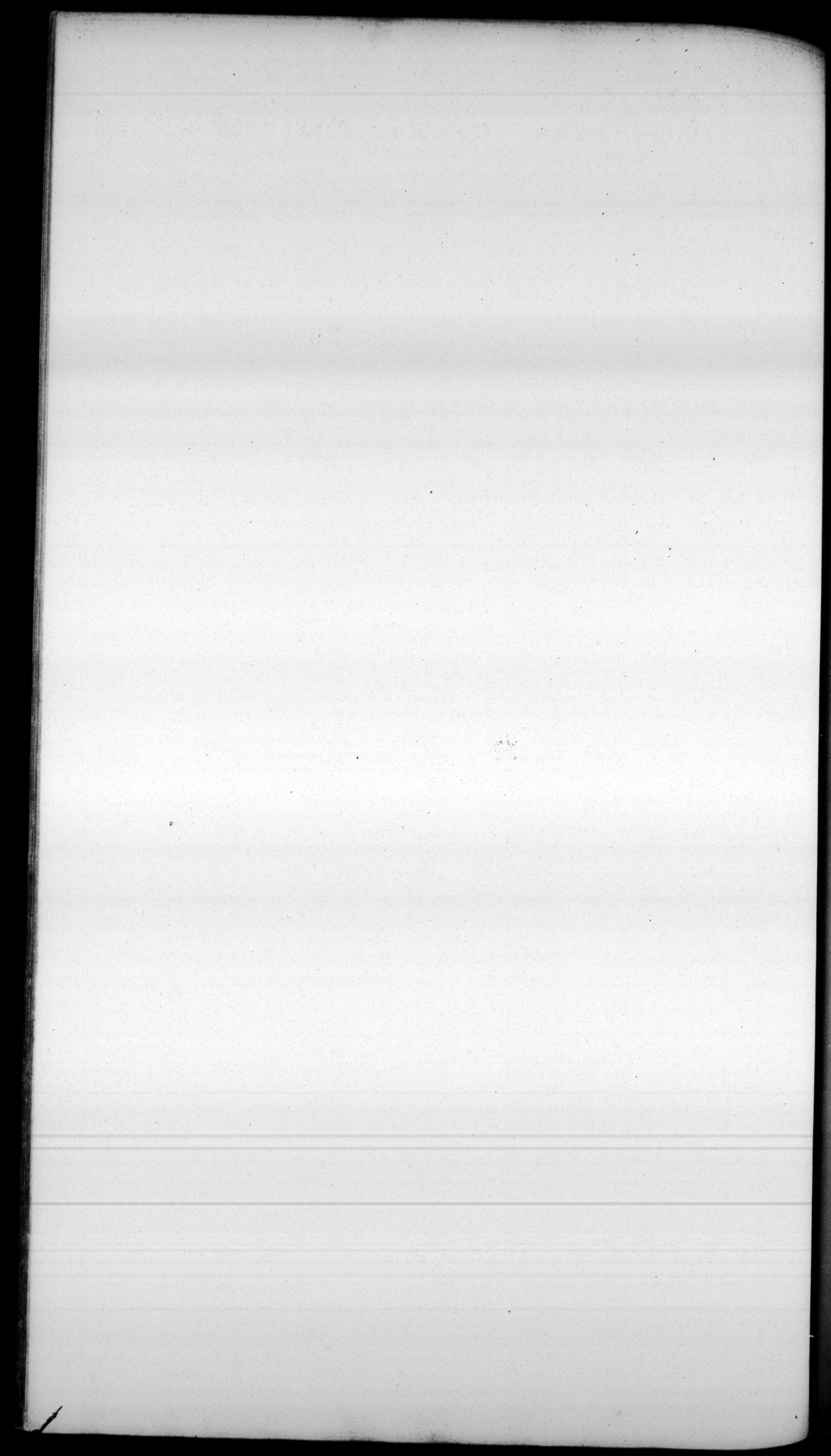
This singular deficiency then, both of the *Operculum* and *Ciliæ*, forms, in our opinion, the best criterion by which to distinguish this genus of plants, and we have altered the generic character accordingly.

PHASCUM ACAULON.

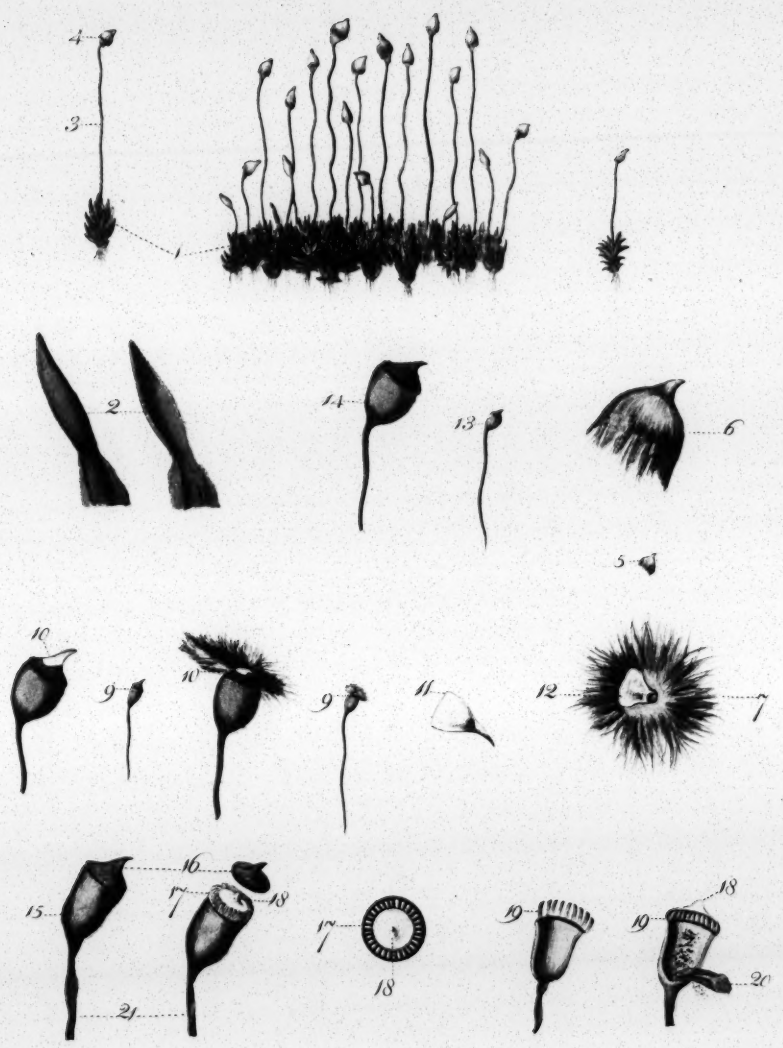
THERE is no moss more common on the moist banks about London than the *Phascum acaulon*; but as it exhibits no appearance of fructification till in an advanced state, and then only to the inquisitive observer, it generally passes unnoticed. Mr. LIGHTFOOT gives a short, but very expressive, description of it, as follows: "The leaves, when young, connive together, in the form of a small oval bulb, about one-sixth of an inch long, and hide the capsule, which is oval and orange-coloured at first, but when ripe fuscous and shining, and about the size of a millet seed." We have represented the plant at *fig. 1.* as it usually grows on the ground; *fig. 2, 3.* detached plants of their natural size; *fig. 4.* a plant magnified; *fig. 5.* a single leaf magnified; *fig. 6.* the anthera or capsule magnified; *fig. 7.* the calyptra also magnified.

PHASCUM SUBULATUM.

THE *Phascum subulatum* is not so frequently met with as the *acaulon*, yet is not uncommon on heaths, in the sand pits about Charlton, and on dry banks in a variety of places. They are both found in fructification from December to January. In this species the capsule, though smaller, is much more distinctly seen, and its calyptra is visible even to the naked eye. Like the other, it varies much in size, as also in the length, of its peduncle. Mr. LIGHTFOOT considers it as the least of our English plants; but Mr. DICKSON, of Covent-Garden, who may justly be called *maximus in minimis*, has discovered a *Phascum*, the *ferratum* of SCHREBER, which is certainly ten times smaller. *Fig. 1.* represents the *subulatum* as it usually grows; *fig. 2, 3.* detached plants; *fig. 4.* a plant magnified; *fig. 5.* a single leaf magnified; *fig. 6.* the capsule; *fig. 7.* the calyptra magnified.







Polytrichum subrotundum

Janson Sculp.

POLYTRICHUM SUBROTUNDUM. DWARF POLYTRICHUM.

POLYTRICHUM *Linnaei*. CRYPTOGRAMIA MUSCI.

Calyptra duplex, interior membranacea, laevis, exterior floccida.

Raii Syn. Gen. 3. MUSCI.

POLYTRICHUM *subrotundum* caule simplici anthera subrotunda. *Hudson Fl. Angl. p. 400.*

MNIUM *Polytrichoides calyptra villosa. Lin. Syst. Vegetab. p. 796. Sp. Pl. p. 1576. Fl. Suecic. p. 385.*

MNIUM *calyptra villosa, acaulon, foliis ferratis, capsulis cylindricis erectis. Haller. hist. n. 1837.*

POLYTRICHUM *Aloefolium. Scopoli Fl. Carniol. p. 309. n. 1290.*

POLYTRICHUM *nanum, capsulis subrotundis galeritis, aloes folio non ferrato. The dwarf round-headed Aloe-leaved Polytrichum, Dillen. Musc. 428. t. 55. f. 6.*

POLYTRICHUM *nanum capsula cylindrica erecta; furculis simplicibus, brevissimis, foliis ferrulatis. Weis Plant. Cryptogam. p. 173.*

MUSCUS *capillaceus minor, calyptra tomentosa. Vaill. paris. 131. t. 26. f. 15.*

ADIANTUM *aureum medium, in ericetis proveniens. Vaill. paris. 429. t. 55. f. 7.*

MUSCUS *coronatus rigidus minor et humilior capitulis villosis brevioribus. Moris. hist. 3. p. 630. t. 7. f. 7.*

POLYTRICHUM *minus capsulis subrotundis, calyptra quasi lacera coronatis. C. G. 221. Raii Syn. p. 91.*

RADIX tomentosa.

CAULIS brevissimus, vix ullus.

FOLIA brevia, rigida, intus concava, extus convexa, acuta, margine minutissime serrata, basi lato membranaceo caulem amplectente, siccata incurvata teretiuscula, fig. 1.

PEDUNCULI simplices, unciales, rubicundi, subdiaphani, flexuosi, fig. 3, demum tortuosi, fig. 21.

CAPSULAE subrotundae, fig. 4.

Fig. — 2, Folia per lentem visa.
5, Calyptra exterior magn. nat.
6, Eadem magn. auct.
7, Eadem inversa ut Calyptra interior appareat.

9, 9, Calyptra interior in situ naturali.

10, 10, Eadem aucta.

11, Calyptra interior separata ab exteriori et seorsim exhibita.

12, Eadem in situ naturali cum exteriori connexa.

13, Capsula magn. nat. nuda.

14, Eadem auct.

15, Eadem ad maturitatem magis accedens.

16, Operculum.

17, 17, Ciliae.

18, 18, 18, Membrana mucronata in summo capsulae cui adnectuntur ciliae.

19, 19, Ciliae in sectione longitudinali Capsulae exhibitae.

20, Receptaculum feminis.

ROOT woolly.

STALK very short, scarce any.

LEAVES short, rigid, hollow within, round without, sharply pointed, the edge very finely serrated, embracing the stalk by a broad membranous base; when dried bending inwards, and of a roundish form, fig. 1.

FOOT-STALKS simple, an inch high, reddish, somewhat transparent, crooked, fig. 3, finally twisted, fig. 21.

CAPSULES roundish, fig. 4.

Fig. — 2, The leaves viewed through a magnifier.
5, The exterior Calyptra of its natural size.
6, The same magnified.
7, The same inverted, that the inner Calyptra may appear.

9, 9, The inner Calyptra in its nat. situation.

10, 10, The same enlarged.

11, The inner Calyptra separated from the outer one, and shewn by itself.

12, The same in its natural situation, connected with the outer one.

13, The Capsule of its nat. size uncovered.

14, The same enlarged.

15, The same approaching more to maturity.

16, The Cover.

17, 17, The Ciliae.

18, 18, 18, A pointed Membrane at the summit of the Capsule, to which the Ciliae are connected.

19, 19, The Ciliae shewn in a longitudinal section of the Capsule.

20, The Receptacle to which the seeds are connected.

ABOUT two years ago, (1776) on examining the structure of the *Polytrichum commune*, in a very young state, I found one of the heads, (*Antheræ Linn.*) after I had divested it of its woolly Calyptra, covered with a membranous shining substance, and which I had no sooner seen, than I judged it to be a Calyptra, being so very similar to the Calyptra's of some Mosses I had just before been examining; and on a more minute investigation, I found it to be a real Calyptra, not accidental to the plant then under examination, but occurring in all those which I, at that time, had an opportunity of dissecting; and afterwards found to be in the dwarf variety of the same species, growing on heaths, and in the present plant.

Those who shall take the pains of investigating the structure of these Mosses, will think it strange that a part so very obvious to the naked eye, should not have been noticed before; but this is easily accounted for.

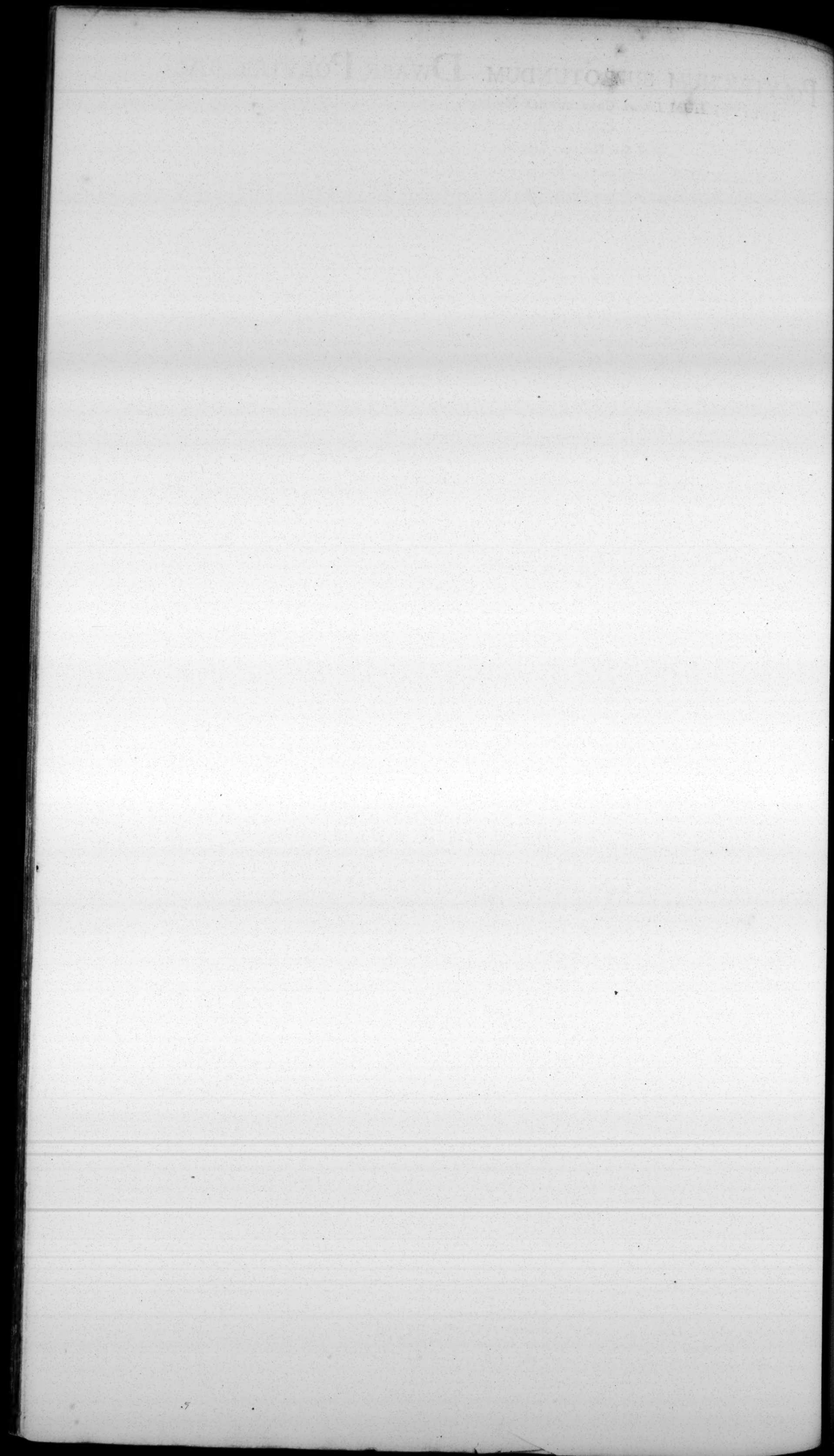
No one, when he sits down to examine these Mosses, conceives a priori, that they have any more than one Calyptra; finding that which is peculiar to this Genus, he rests satisfied, pulls it off, and proceeds to the examination of the remaining parts, not imagining that a membranous Calyptra is closely connected by its apex to the woolly one, pulled off with, and covered by it, and scarce discovered but by totally inverting it: but that this is actually the case, any one may satisfy themselves in the course of this and the succeeding months, *February* and *March*.

This inner Calyptra differs very little from the Calyptra of other Mosses; at first it wholly surrounds the unripe Capsules, as they increase in size it splits at bottom, and finally becomes very short.

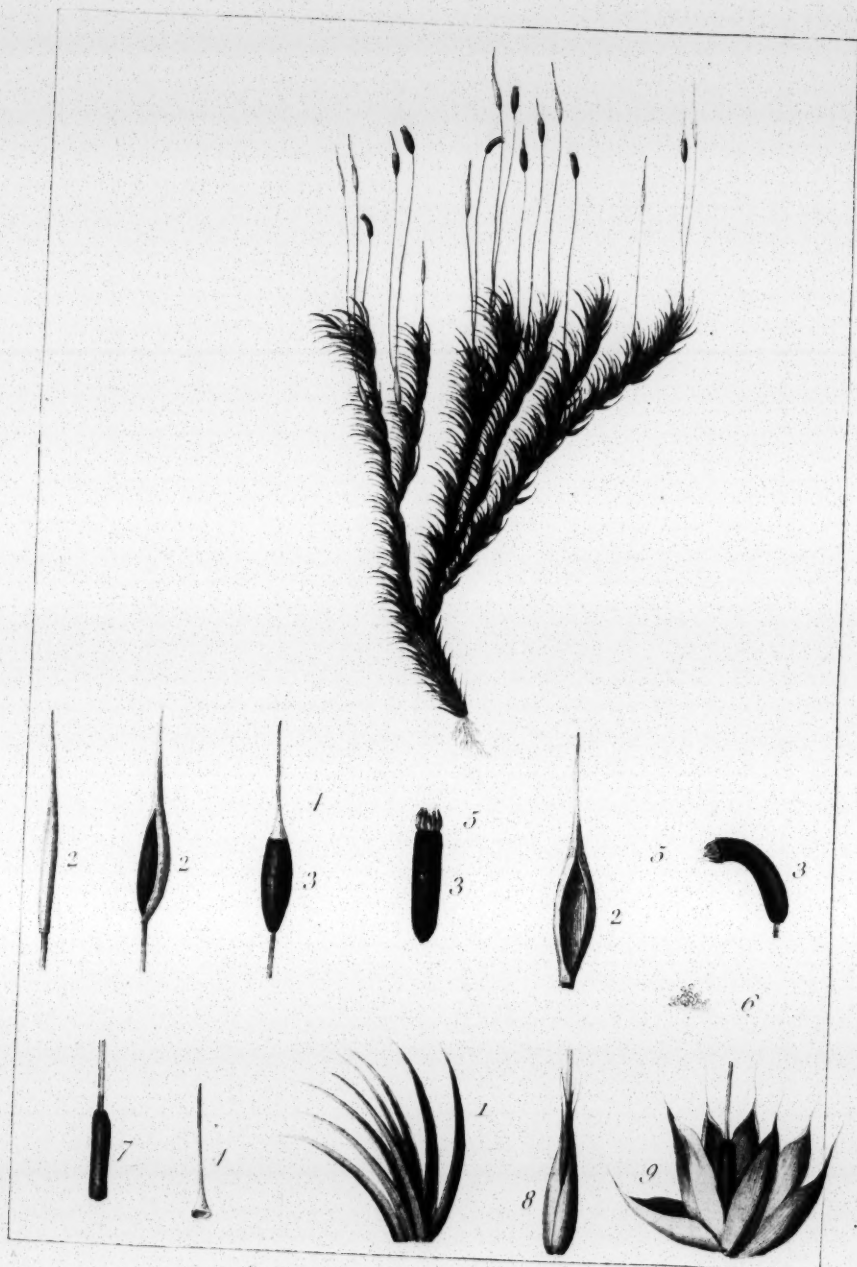
I was the more pleased with this discovery, as I conceived hopes it would place the genus *Polytrichum* in a more pleasing and satisfactory point of view; and I have accordingly ventured to alter its generic character as above: by this alteration it is brought from the *Mniums*, among which it is placed by LINNÆUS and HALLER, and arranged with the *Polytrichums* of DILLENUS, HUDSON, SCOPOLI, and WEIS, to which its habit alone certainly entitles it, was it not found to accord with the *Polytrichum* in the essential character now discovered.

Why nature should have been thus careful in covering this genus of plants with a warm additional coat, while many of the other Mosses, at the same time of the year, are thinly clad with a single membranous veil, does not appear. In the structure of the two Calyptra's, there is a most essential difference; the outer one being a woolly substance closely matted together, without any connecting membranous substance; the inner one consisting wholly of membrane. The plant here figured, is the *Polytrichum capsulis subrotundis* of DILLENUS, and of which that, with the *capitulis oblongis*, seems to be only a variety growing in warmer and less exposed situations.

It is by no means an uncommon Moss on our heaths, and exposed hilly and sandy places about town. It throws out its stalks in *November* and *December*, and ripens its Capsules in *January* and *February*.







Bryum Scoparium L.

BRYUM SCOPARIUM. BROOM BRYUM.

BRYUM *Linnaei Gen. Pl. CRYPTOGRAMIA MUSCI.*

Raii Syn. Gen. 3: MUSCI.

BRYUM *scoparium*, Antheris erectiusculis, pedunculis aggregatis, foliis secundis recurvatis, caule declinato.

Linnaei Syst. Vegetab. p. 797.

HYPNUM foliis falcatis, heteromallis; vaginis multifloris. *Haller hist. n. 1777.*

HYPNUM *scoparium. Scopoli Fl. Carn. p. 334. DIAGN. Florescentia Hyemalis. Folia arcuata, secunda, tenuia. Setæ sæpe plures.*

BRYUM *scoparium*: furculo declinato, ramofo, foliis secundis, recurvatis, primordialibus plumulosis. *Necker. method. musc. p. 224.*

HYPNUM *scoparium. Weis. Cryptogam. p. 213.*

BRYUM reclinatum, foliis falcatis, scoparum effigie: *The sickle-leaf'd bending Beafom Bryum. Dillen. musc. p. 357. tab. 46. fig. 16*

BRYUM erectis capitulis angustifolium, caule reclinato. *Cat. Gifs. 222. Raii Syn. 95. Hudson Fl. Angl. p. 406.*

CAULES unciales aut biunciales et ultra, suberecti, ramofo, in denso caespite collecti, sordide rufi, infra multo temento fusco obfiti.

FOLIA caulem inæqualiter circumstant, hinc in quibusdam locis nudiusculus relinquitur, in aliis foliis crebrioribus vestitur, præcipue ad apicem, longa, linearia, acuminata, canaliculata, *fig. 1*, recurvata, secunda.

PEDUNCULI unciales aut biunciales, ad basin rubicundi, erecti, ex uno latere caulium plerumque oriuntur, aliquando vero ex apice, ut plurimum solitarii, subinde vero duo ex eodem perichætio proveniunt, basi bulbillo cylindraceo terminati, *fig. 7*, qui foliis pluribus latiusculis, pilo terminatis, acû facile separabilibus includitur, *fig. 8, 9.*

CAPSULÆ oblongæ et fere cylindraceæ, nunc erectæ, nunc paululum incurvatae, *fig. 3*; OPERCULUM rostratum, tenue, longitudine capsulæ et concolor, *fig. 4*; ORA ciliata sive denticulata, *fig. 5*; CALYPTRA straminea, longitudine Capsulæ, postquam medio dirumpitur, basi suo capsulam arcte cingit, *fig. 2*; POLLEN viride, *fig. 6.*

STALKS from one to two inches high and more, nearly upright, branched, growing thickly together, of a dirty red colour, and covered at bottom with a dark brown wooly substance.

LEAVES: the leaves cover the stalk unequally, hence in some places it is left rather naked, in others more thickly covered with leaves, particularly towards the top, are long, linear, pointed, grooved, *fig. 1*, bent back, and turning all one way.

FOOT-STALKS an inch or two inches high, towards the bottom reddish, upright, arising generally from the side of the stalks, but sometimes from the top, most commonly single, but now and then two proceed from the same perichætium, furnished at bottom with a cylindrical bulb, *fig. 7*, which is inclosed by many broadish leaves, terminating in a hair, and easily separated by a needle, *fig. 8, 9.*

CAPSULES oblong and almost cylindrical, sometimes upright, sometimes a little incurvated, *fig. 3*; the OPERCULUM the length of the Capsule, and of the same colour, terminating in a long slender point, *fig. 4*; the MOUTH ciliated or furnished with little teeth, *fig. 5*; the CALYPTRA straw-coloured, the length of the Capsule, after bursting in the middle closely embracing the Capsule by its base, *fig. 2*; the POLLEN green, *fig. 6.*

DILLENUS very justly remarks, that this Moss seems to partake of the nature of both *Bryum* and *Hypnum*, but in his opinion, it comes nearest to the *Bryum*, and of the same sentiment appear to be LINNÆUS and NECKER, while HALLER, SCOPOLI, and WEIS, rank it among the *Hypnums*, and this they are led to, chiefly from the Peduncles being furnished at bottom with a kind of *Perichætium*; but DILLENUS very properly observes, that although the peduncle is surrounded at bottom by many *squamæ* or *folioli*, yet these are not similar to what occur in the generality of *Hypnums*, as they may with the point of a pin be easily separated from one another, and then the base of the peduncle appears to be furnished with a *bulbillus* as in most of the *Bryums*: this circumstance added to its general habit, appears fully to justify this most excellent Botanist in placing it with the *Bryums*, from whence it ought not to have been separated without more weighty reasons than have been advanced.

This Moss distinguishes itself from most others by its beautifull and lively verdure; when young it puts on a very different appearance from what it has when farther advanced, being much shorter and its leaves upright; and DILLENUS has sometimes remarked in this species *Stellulæ femineæ*.

It grows in very large Clumps or Patches forming a soft and delightfull Carpet, on the banks which surround woods, at the bottom of trees, and on heaths.

It is found on some parts of Hampstead heath producing its fructifications in February and March.

BRITISH MUSEUM

BRITISH MUSEUM, CO. 10, CANNON STREET, LONDON, E.C.

NO. 10, CANNON STREET, LONDON, E.C.

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Asplenium Cuspidatum.



BRYUM UNDULATUM. CURLED BRYUM.

BRYUM *Linnaei. Gen. Pl. CRYPTOGRAMIA MUSCI.*

Raii Syn. Gen. 3. MUSCI.

BRYUM (*undulatum*) antheris erectiusculis, pedunculis subfoliariis, foliis lanceolatis carinatis undulatis patentibus ferratis. *Linn. Syst. Vegetab. p. 797.*

BRYUM foliis lanceolatis ferratis, capsulis cylindricis inclinatis aristatis. *Haller. hist. tom. 2. 1823.*

BRYUM *phyllitidifolium*: furculo simplici, foliis undato-ferrulatis, primordialibus plumulosis. *Necker. method. muscor. p. 283.* cur nomen triviale a Cl. Neckero mutaretur non video, cum analogia unde nomen ejus fumitur obscura fit, observante Cl. Scopoli.

BRYUM *Phyllitidis* folio rugoso acuto, capsulis incurvis. *Dillen musc. 360. tab. 46. fig. 18.*

BRYUM *undulatum. Scopoli. Fl. Carniol. n. 1301. Raii Syn. p. 95. 16. Hudson Fl. Angl. 406. Weis Cryptogam. 196. Oeder Fl. Dan. tab. 497.* nostris duplo faltem minor, cum operculo nimis recto et acuto.

SURCULI unciales, aut biunciales, plerumque simplices, erecti, foliosi.

FOLIA lanceolata, undulata, carinata, *ferrato-aculeata*, patentia, arefactione involuta, *fig. 1.*

PEDUNCULI simplices, (duo ex eodem furculononnumquam proveniunt) furculis plerumque longiores, erecti, rubri, *fig. 2.*

CAPSULA five ANTHERA cylindracea, incurvata, lente visa substriata, primum viridis, dein ex livido-fusca, demum rufa, *fig. 3.* Basis OPERCULI hemisphaerica, rubra, apex pallida, setacea, obtusiuscula, *fig. 5.* Capsulae ORA ciliata CILIIS inflexis, *fig. 7.* ANNULUS ruber, *fig. 6.* POLLEN seu SEMEN viride, *fig. 8.*

CALYPTRA pallide fusca, acuminata, primum erecta, flexura capsulae dirumpitur, et recta manet, basique sua a Capsula secedit, *fig. 4.*

STALKS from one to two inches high, generally simple, upright and leafy.

LEAVES lanceolate, waved, keel-shaped, *minutely and sharply serrated at the edges*, spreading, when dry curling in, *fig. 1.*

FOOT-STALKS of the fructification simple, (sometimes two proceed from the same stalk) generally longer than the stalks, upright, and of a reddish colour, *fig. 2.*

CAPSULE or ANTHERA cylindrical, incurvated, if magnified appearing somewhat striated; first green, then livid-brown, and lastly of a reddish brown colour; *fig. 3.* the bottom of the OPERCULUM hemispherical and red, the top paler, very slender and rather blunt; *fig. 5.* the MOUTH of the Capsule furnished with CILIÆ which bend inward, *fig. 7.* the ANNULUS or RING red, *fig. 6.* the POLLEN or SEED green, *fig. 8.*

CALYPTRA of a pale brown colour, and terminating in a long point, first upright, afterwards by the bending of the Capsule it becomes burst at bottom, and remains strait, with its base at some little distance from the Capsule.

THIS species of BRYUM is one of the largest we have in this Country, it produces its fructification from November to February and may be found in most of the woods near Town, as well as on the heaths, but more particularly in *Charlton Wood.* where it abounds.

As all its parts of fructification are large and distinct, the botanic Student who would investigate this difficult class of plants, cannot with this view, select any moss more proper for his purpose.

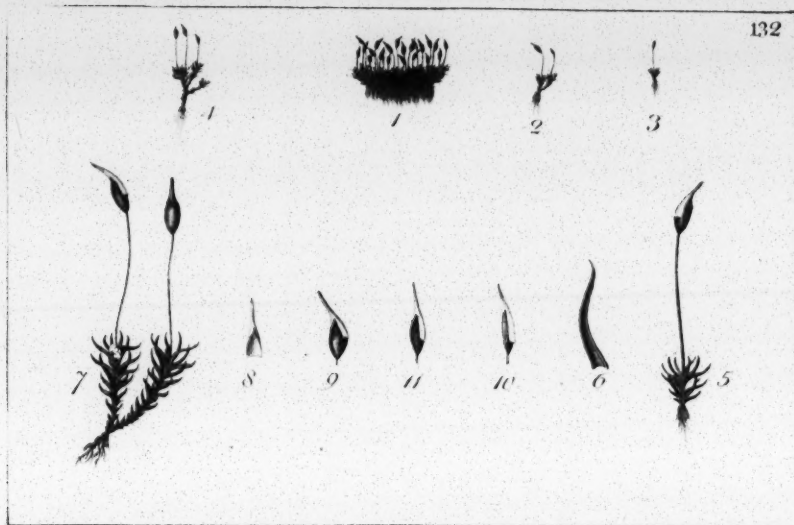
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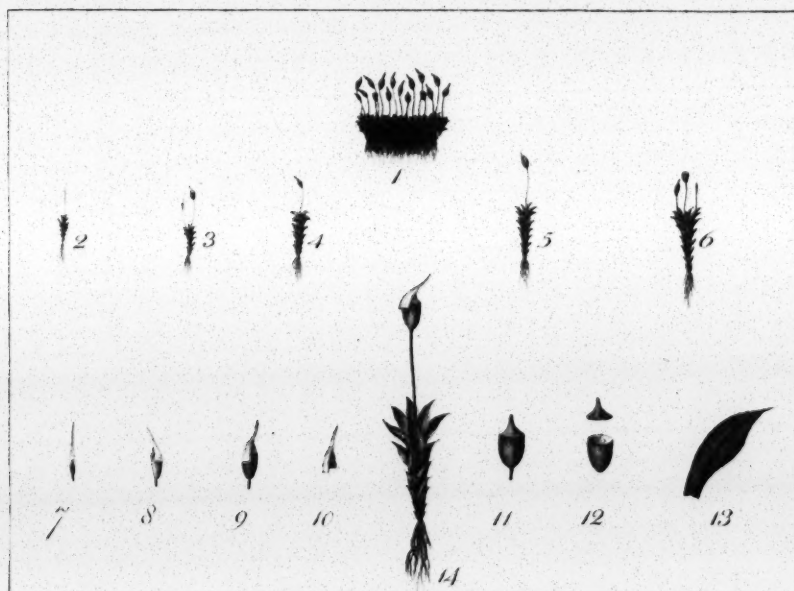
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1892





Bryum viridulum



Bryum truncatulum

BRYUM TRUNCATULUM. BROWN BRYUM.

BRYUM *Linnaei Gen. Pl. CRYPTOGAMIA MUSCI.*

Raii Syn. Gen. 3. MUSCI.

BRYUM *truncatulum* antheris erectis subrotundis, operculo mucronato. *Lin. Syst. Vegetab. p. 798. Sp. Pl. 1584. Fl. Suecic. 391. Dillen. Musc. 347. t. 45. fig. 7. Raii Syn. 94. Hudson Fl. Angl. 408. ed. 2. p. 477. Lightfoot. Fl. Scot. p. 730.*

CAULES simplices, brevissimi, lineas tres raro superantes, caespitiosi, fig. 1, 6.

FOLIA ovato-lanceolata, mucronata, fig. 13, splendens, carinata, superiora majora, in stellulam expansa.

PEDUNCULI simplices, subinde bini, trium quatuorve linearum, purpurascens.

CALYPTRA pallida, obliqua, acuminata, fig. 7, 8, 9, 10.

OPERCULUM primo rostratum, obliquum, delapsa calyptra contrahitur erectumque evadit, fig. 11, 12.

CAPSULA primo ovata, fig. 8, 9, flavescens, demum rufa, truncata, annulo ciliisque destituta, fig. 11, 12.

Plantula microscop. auct. fig. 14.

STALKS simple, very short, seldom exceeding three lines, growing in tufts, fig. 1, 6.

LEAVES oval, lanceolate, terminating in a point, fig. 13, shining, with a projecting midrib; those on the top of the stalk largest, with a star-like expansion.

PEDUNCLES simple, sometimes growing two together, three or four lines in length, of a purplish colour.

CALYPTRA pale, oblique, and terminating in a long point, fig. 7, 8, 9, 10.

OPERCULUM, at first having a beak, placed obliquely on the capsule, on the falling off of the calyptra becoming shorter and upright, fig. 11, 12.

CAPSULE, at first oval, fig. 8, 9, of a yellowish colour, finally of a reddish brown, as it were cut off at top, and destitute of both ring and cilia, fig. 11, 12.

The whole plant magnified, fig. 14.

THE *Bryum truncatulum* is one of the least of our *Mosses*, and distinguishable at first sight by the great number of its little brown heads, which, when the operculum falls off, have their margin entire, so that they appear as if cut across, whence its name of *truncatulum*.

It is very common almost every where on banks, producing its fructifications from September to February.

It varies much in size.

HASSELQUIST, in his journey to *Palestine*, finding the *Walls* of *Jerusalem* covered with this little plant, calls it *Hyssopus Solomonis*, from a supposition that it was the plant which *Solomon* meant, when he spake of trees from the Cedar in Lebanon to the Hyssop which springeth out of the wall.

BRYUM VIRIDULUM. GREEN BRYUM.

BRYUM *viridulum* antheris erectis ovatis, foliis lanceolatis acuminatis imbricato-patulis. *Linnaei Syst.*

Vegetab. p. 798. Sp. Pl. 1584. Fl. Suecic. 1002. Dillen. Musc. 380. t. 48. fig. 43. Raii Syn. 97. Hudson. Fl. Angl. 408. ed. 2. 487. Lightfoot. Fl. Scot. 731.

EXPL. FIG.

Fig. 1, 2, 3, 4, Plantæ nat. magnitud.

Fig. — 5, 7, Plantæ auct.

Fig. — 6, Folium auct.

Fig. 9, 10, 11, Capsulæ cum Calyptrâ.

Fig. — 8, Calyptra seorsim exhibita.

EXPLAN. of FIG.

Fig. 1, 2, 3, 4, Plants of their natural size.

Fig. — 5, 7, Plants magnified.

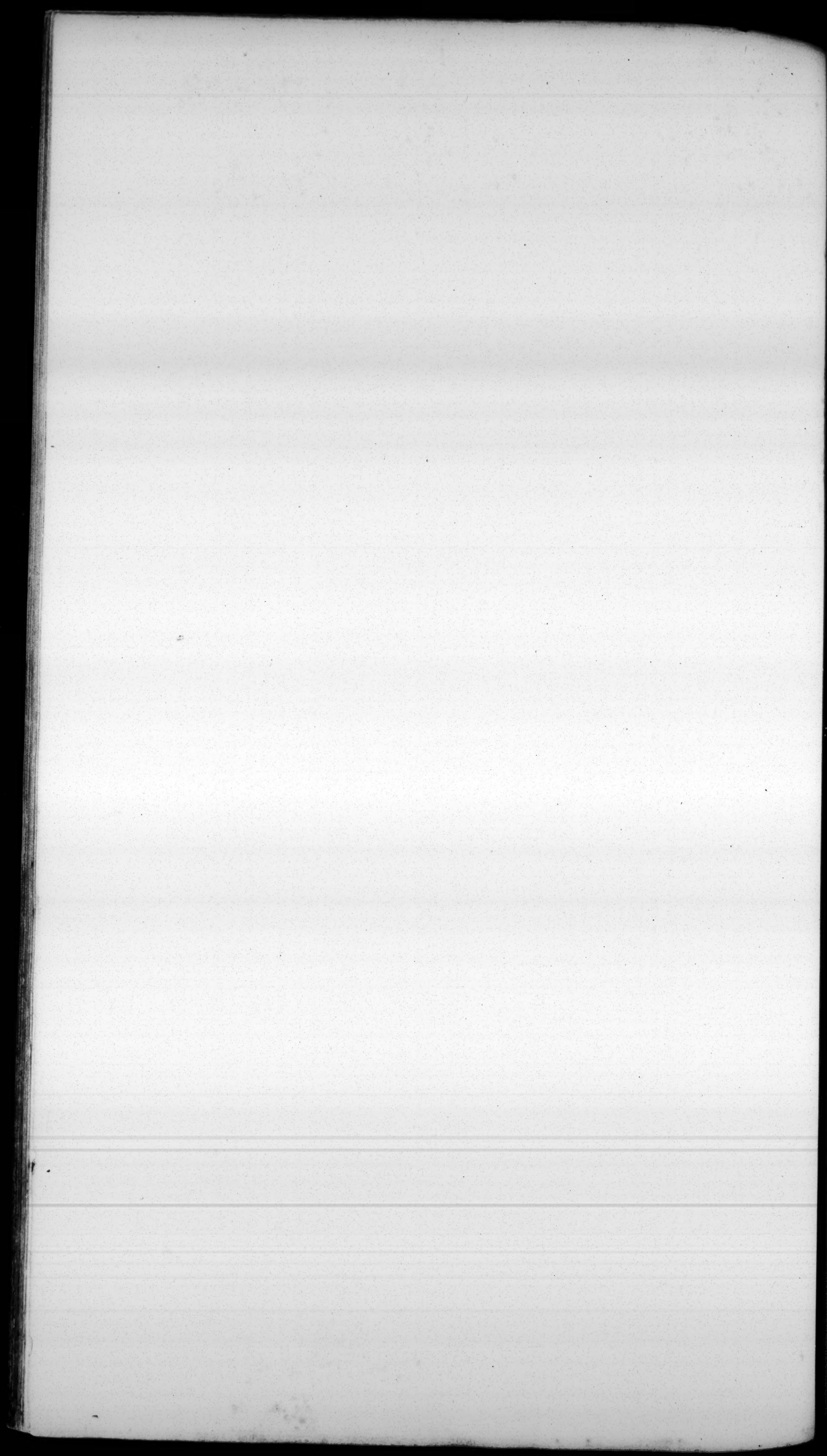
Fig. — 6, a Leaf magnified.

Fig. 9, 10, 11, Capsules with the Calyptra.

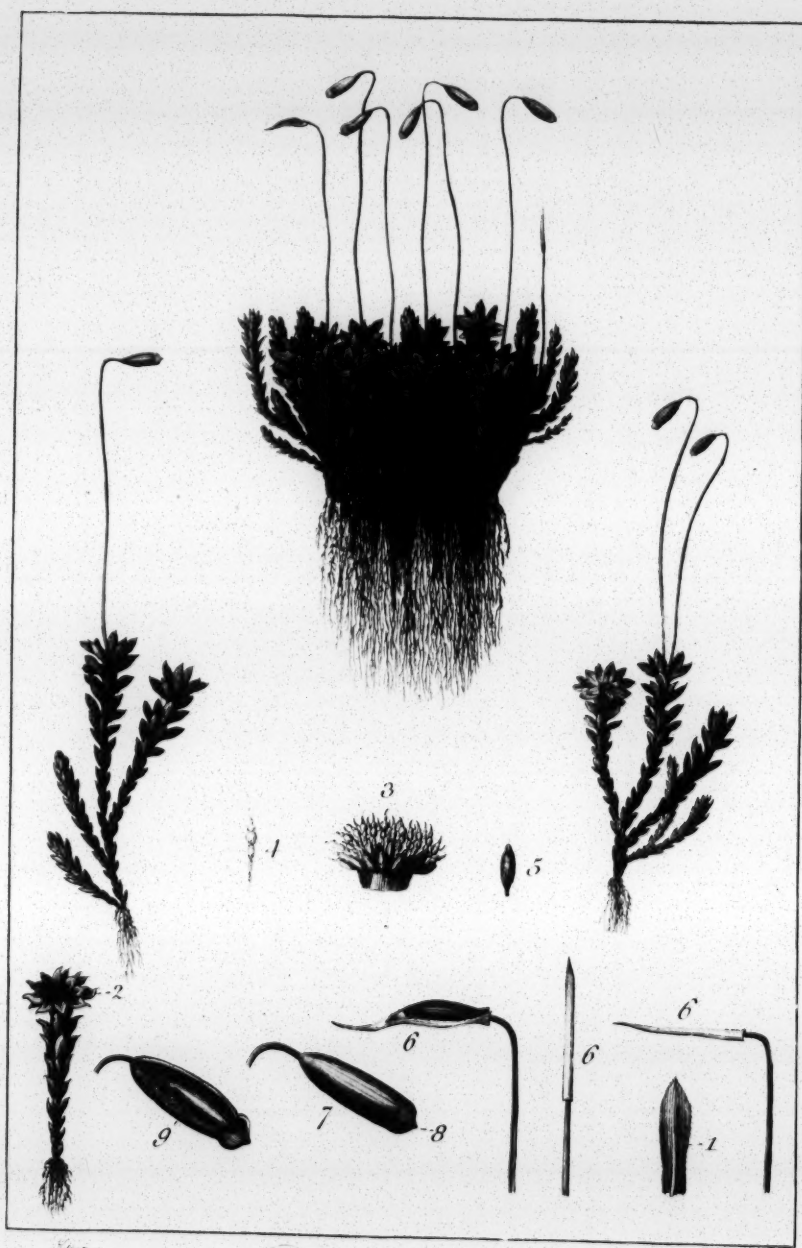
Fig. — 8, The Calyptra exhibited separately.

THIS species differs from the above in many particulars. It grows in close soft tufts, which are in general larger, and of a more yellow hue; the stalks are frequently branched; the leaves are much finer, being nearly capillary; the mouth of the capsule, when the operculum falls off, is narrower than the middle, hence it bears a greater resemblance to an egg, with the extremity cut off; while the *truncatulum* approaches more to the form of an urn. In the *viridulum*, the mouth is also very finely ciliated.

The *viridulum* grows in great abundance on the banks surrounding *Charlton Wood*; and produces its fructifications with the *truncatulum*.







Bryum hernum.

BRYUM HORNUM. SWANS-NECK BRYUM.

MNIUM *Linnaei Gen. Pl. CRYPTOGRAMIA Musci.* Masculus flos pedunculatus. Feminus flos in distincto saepius individuo.

Raii Synopsis Gen. 3. Musci.

MNIUM *hornum* antheris pendulis, pedunculo curvato, furculo simplici, foliolis margine scabris. *Linnaei Syst. Vegetab.* 796.

BRYUM *hornum* furculo capitulifero ramosiusculo: stellifero simplici, primordialibus plumulosis. *Necker. Method. Musc.* p. 215.

MNIUM foliis lanceolatis, imbricatis, capsulis pendulis cylindricis obtusis. *Haller. hist. helv.* 3. p. 54.

MNIUM *hornum* ferratifolium. *Weis Cryptogam.* 149.

BRYUM antheris oblongis nutantibus, pedunculo curvato, foliolis ovatis, margine scabris. *Hudson. Fl. Angl.* p. 415.

BRYUM stellare hornum sylvarum, Capsulis magnis nutantibus. *Dillen. musc.* 402.

BRYUM nitidum capitulis majoribus reflexis, calyptra imum vergente, pediculis oblongis e cauliculis novis egredientibus. *Raii Syn.* p. 102. 51.

Ad majores accedit hæc species.

CAULES unciales aut biunciales, radiculis ferrugineis, valde tomentosis instructi, erecti, plerumque ramosi, pedunculiferi et stelliferi, ad basin rubicundi, STELLULÆ et PEDUNCULI, nunc seorsim, nunc ex eadem radice proveniunt, unusque aut plures Surculi e basi caulis semper fere nascuntur.

FOLIA saturate viridia, ovato-lanceolata, suberecta, pellucida, ad lentem minute ferrata, fig. 1; nervo medio distincto et in mucronem brevem educto, in furculis foemineis dictis apice stellatim expansa, et paulo latiora, in junioribus angustiora et cauli magis adpressa.

PEDUNCULI terminales, biunciales, rubræ, versus apicem ut recte observavit DILLENIIUS instar colli olivini incurvati.

CAPSULÆ oblongæ, tumidæ, virides, nutantes, lente aucta, fig. 7; per longitudinem secta ut RECEPTACULUM conspiciatur, fig. 9; CALYPTRA longa, acuminata, caduca, fig. 6; OPERCULUM breve, flavescens, fig. 8; ORA ciliata.

This species comes near to the largest size.

STALKS from one to two inches in height, furnished with roots which are of a ferruginous colour, and covered with a kind of woolly substance, upright and generally branched, reddish at bottom, producing both PEDUNCULI and STELLULÆ, which proceed sometimes from the same, sometimes from different roots, and one or several Surculi usually spring from the bottom of the stalk.

LEAVES of a deep green colour, of an oval pointed shape, nearly upright, pellucid, when viewed with a glass finely serrated at the edges, fig. 1; the midrib distinct, and terminating in a short point, on the tops of those stalk, which are considered as female, they are expanded like a little star and somewhat broader, in the young shoots they are narrower and pressed closer to the stalk.

PEDUNCLES springing from the summit of the stalks, about two inches in height, bent near the top like a Swans Neck as DILLENIIUS has properly observed.

CAPSULES oblong, tumid, of a green colour and drooping, magnified, fig. 7; cut longitudinally through the middle that the RECEPTACULUM may be seen, fig. 9; the CALYPTRA long, pointed, and soon falling off, fig. 6; the OPERCULUM short, of a yellowish colour, fig. 8; the MOUTH of the Capsule ciliated.

On examining with a Microscope the tops of those Stalks which are called *Stellulæ foemineæ*, fig. 2, and which are considered by many as the female parts of the fructification in this Moss, there appeared in the center of the *Stellula*, a great number of small upright bodies, or Corpuscles, of two kinds, fig. 3, the one white, pellucid, and jointed; the other of a greener colour, shorter, and of an oblong oval shape, vid. fig. 4, 5. They do not appear to me to have any thing in their Structure, in the least similar to any of the parts of fructification in plants, what their real structure and uses are, may perhaps be discovered by future observations.

This species occurs not unfrequently on moist banks in Woods, as in *Charlton Wood*, and the Woods about *Hampstead*, producing its Fructifications in February and March.

As the *Capitula pulverulenta* of DILLENIIUS, or *Sphaerophylli* as they are called by NECKER, are entirely wanting in this Moss, and as the existence of those singular little heads seems very obviously to distinguish the Genus *Mnium*, I have chosen rather to arrange it with DILLENIIUS and HUDSON among the *Bryums*, than with LINNÆUS among the *Mniums*; for if we make *Mniums* of all the Mosses which have *Stellulæ*, we shall involve ourselves in considerable difficulties: many of those *Stellulæ* are indeed very obvious, as in the present one, but in others they are very obscure, so that it is difficult to say whether they exist in them or not; but if they were obviously to be distinguished, there is not the least likeness between a *Stellula* and *Sphaerophyllum*, why then unite in one Genus plants which have such very different appearances? Would it not be better to consider the Mosses which produce *Sphaerophylli* or little balls as *Mniums*, according to DILLENIIUS, and divide the *Bryums*, if necessary, into two families, viz. such as have obvious *Stellulæ*, and such as have none?

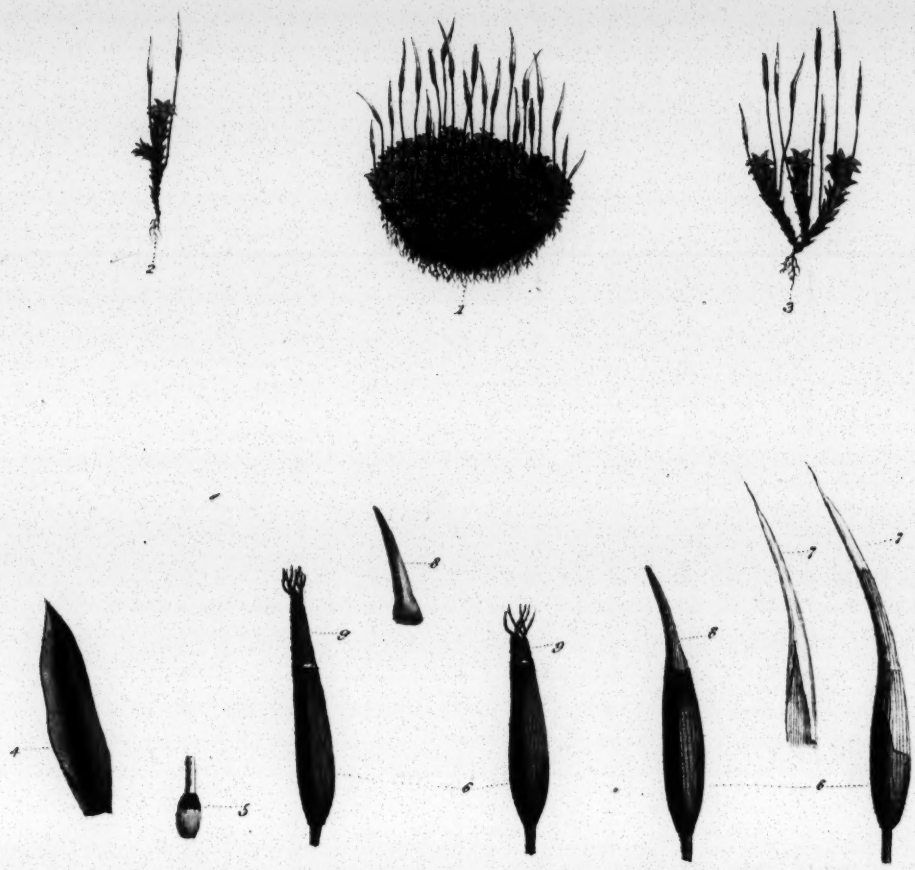
The name of rough *Bryum*, which Mr. HUDSON seems to have given to this Moss for brevity's sake, conveys an idea with which this *Bryum* does not seem perfectly to correspond, it having no roughness except at the edges of the leaves, which are minutely serrated: I have therefore adopted DILLENIIUS's name of *Swans Neck Bryum*, as being justifiable from the singular shape of the Peduncles, and being more likely to be remembered from its striking analogy.

1914-15-16. Col. H. Christensen. 1914-15-16.

SECRET

1911





Bryum barbatum.

BRYUM BARBATUM. BEARDED BRYUM.

BRYUM *Lin. Gen. Pl. CRYPTOGRAMIA MUSCI.*

Anthera operculata. *Calyptra* lævis. *Filamentum* e tuberculo terminali ortum.

Raii Syn. Gen. 1. MUSCI.

BRYUM *barbatum* antheris erectis oblongis barbatis, operculo acuminato obliquo, pedunculis lateralibus.

BRYUM unguiculatum et barbatum tenuius et stellatum. *Dillen, Musc. tab. 48. fig. 48.* Small flat-topped, clawed, and bearded Heads.

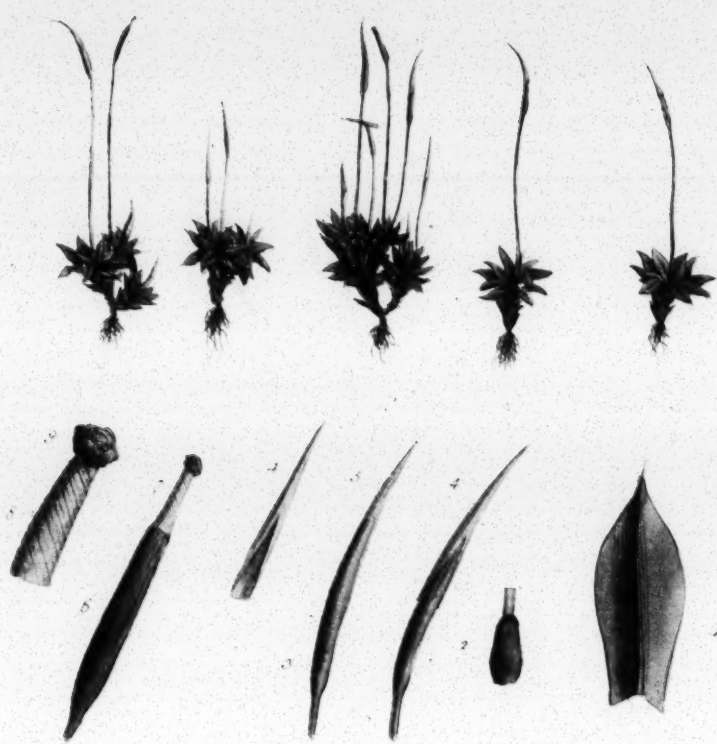
DENSISSIMIS cæspitibus modo Bryi purpurei ad muros et aggeres nascitur. <i>fig. 1.</i>	FORMS a thick turf on walls and banks, in the manner of the Bryum purpureum. <i>fig. 1.</i>
CAULICULI semunciales aut paulo plus, ramosi, erecti, foliosi. <i>fig. 2, 3.</i>	STALKS half an inch or somewhat more in height, branched, upright, and leafy. <i>fig. 2, 3.</i>
FOLIA e luteo-viridia, densa, lanceolata, acuta, inferioribus suberectis, supremis patentibus. <i>fig. 4. auct.</i>	LEAVES of a yellowish-green colour, growing thick together, lanceolate, pointed, the lowermost nearly upright, the uppermost spreading; <i>fig. 4. magnified.</i>
PEDUNCULI semunciales et ultra, ex imo seu ex medio nunquam e summitate furculi enati, singulares vel plures ex eodem furculo, rubentes, nitidi, flexuosi, bulbillo oblongo nudo superne rubro præditi. <i>fig. 5.</i>	PEDUNCLES half an inch or more in length, proceeding from the bottom or middle, but never from the top of the furculus, one or several from the same furculus, red, shining, crooked, furnished at bottom with a naked oblong bulb, red at top. <i>fig. 5.</i>
CAPSULÆ suberectæ, tenues, oblongæ, acuminatæ, olivaceæ, nitidæ. <i>fig. 6. Calyptra</i> longa, acuminata, parum obliqua. <i>fig. 7. Operculum</i> longum, tenue. <i>fig. 8. Ciliæ</i> aurantiacæ, seu coccineæ spiræ modo contortæ. <i>fig. 9.</i>	CAPSULES nearly upright, slender, oblong, pointed, of an olive colour, and shining. <i>fig. 6. Calyptra</i> long, pointed, a little oblique. <i>fig. 7. Operculum</i> long, and slender. <i>fig. 8. Ciliæ</i> orange-coloured or scarlet, twisted in the form of a screw. <i>fig. 9.</i>

The moss here represented is undoubtedly the *Bryum* figured by DILLENIIUS, in his forty-fifth plate, forty-eighth figure. Neither LINNÆUS nor Mr. HUDSON make mention of it. We are convinced, however, from repeated observations, that it is a species perfectly distinct. It approaches very near to the *Bryum imberbe* and *unguiculatum*. From the former it differs in having the Antheræ or Capsules terminated by long twisted ciliæ, and in having the peduncles always proceeding from the base of the furculus: this last character also strikingly distinguishes it from the *unguiculatum*.

It is not unfrequent about *London*, especially in the environs of *Charlton*, on walls, and barren hilly ground, with the *Bryum purpureum* and *cæspitium*, and produces its fructifications in *December*, *January*, and *February*.







Bryum subulatum.

BRYUM SUBULATUM. AWL-SHAPED BRYUM.

BRYUM *Lin. Gen. Pl. CRYPTOGRAMIA MUSCI.*

Anthera operculata. *Calyptra* lævis. *Filamentum* e tuberculo terminali ortum.

Raii Syn. Gen. 3. Musci.

BRYUM *subulatum* antheris erectis subulatis, furculis acaulibus. *Lin. Syst. Vegetab. p. 797. Sp. Pl. p. 1581. Fl. Suec. n. 991.*

BRYUM caule brevissimo, foliis lanceolatis, capsulis longissimis, operculo prælongo. *Haller. hist. 1827.*

BRYUM *subulatum. Scopoli Fl. Carn. n. 1304.*

BRYUM capsulis longis subulatis. *Dill. Musc. 350. t. 45. f. 10.*

BRYUM erectis longis et acutis falcatis capitulis, calyptra subfusca, foliis serpylli pellucidis. *Raii Syn. 92. Vaill. Bot. Par. t. 25. f. 8.*

Hudson. Fl. Angl. ed. 2. p. 476.

Lightfoot. Fl. Scot. p. 719.

RADICES nigræ, fibrillose, parum ramosæ.
CAULES subfessiles, dente coarvati, simplices vel ramosi.
FOLIA ovato-lanceolata, patentia, pellucida, pallide viridia, modice carinata, mucrone brevi terminata, ad lentem visa. *fig. 1.*
PEDUNCULI unciales et ultra, pallide lutescentes, sicci contorti, bulbillo præditi oblongo. *fig. 2.*
CAPSULÆ prælongæ, cylindricæ, subaurantiæ, incurvæ. *fig. 3.* annotinæ rectiores e fusco-purpureæ, e quarum ore egreditur trunculus seu cornu, e ciliis in tubum contortis compositum, apice vero liberis. *fig. 6, 7, 8, 9;* Calyptra longitudine fere capsulæ, acuminata. *fig. 4.*
OPERCULUM capsulâ duplo brevior, acuminatum. *fig. 5.*

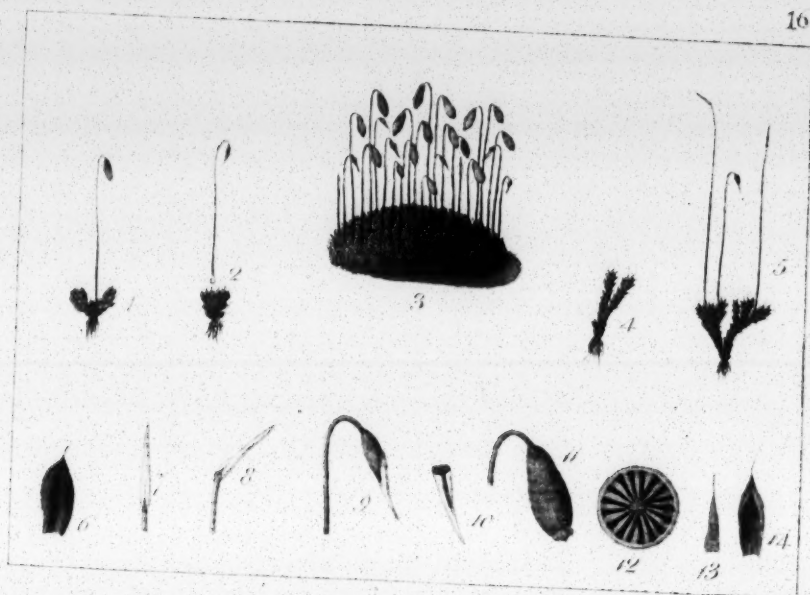
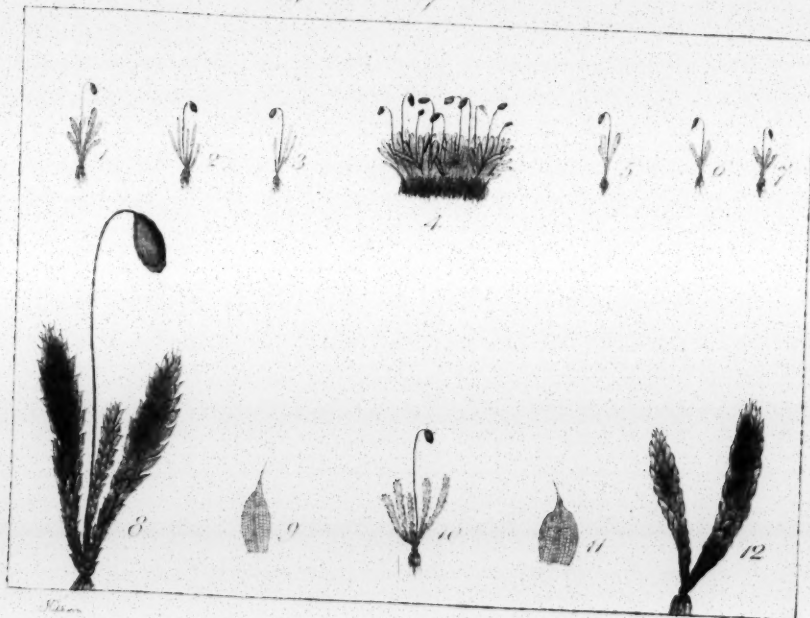
ROOTS black, fibrous, a little branched.
STALKS nearly sessile, growing close together, simple or branched.
LEAVES ovato-lanceolate, spreading, transparent, of a pale green colour, moderately keel'd, terminated by a short point, as magnified. *fig. 1.*
PEDUNCULES an inch or more in height, of a pale yellow colour, twisted when dry, furnish'd with an oblong bulb. *fig. 2.*
CAPSULES very long, cylindrical, somewhat orange coloured and crooked, *fig. 3;* those of the preceding year straighter, of a purplish brown colour, from the mouth of which proceeds a little trunk or horn composed of the ciliæ twisted into a tube, but loose at top. *fig. 6, 7, 8, 9.* Calyptra almost the length of the capsule, having a long point. *fig. 4.*
OPERCULUM twice as short as the capsule and pointed. *fig. 5.*

FEW of the Mosses are subject to so little variety, or more easily discovered than the *Bryum subulatum*, before it puts forth its capsules we are struck with the broadness of its leaves and their star-like expansion; as it advances the capsules while covered by their Calyptras are unusually long, pointed, and in general a little bent whence it has acquired the English name of *Awl-shaped*, the capsule in its last state after losing both its Calyptra and Operculum, is peculiarly distinguished by the protrusion of a substance from its mouth, of a whiter colour than the body of the capsule, this substance when magnified is found to consist of a number of threads or filaments forming a thin spiral tube, yet loose and unconnected at top, see *fig. 7, 8, 9*, the tube is formed before the operculum falls off, for its spiral line may be observed through the transparent operculum when it is in a young state: DILLENIVS using a small magnifier, has not done justice to this very singular and curious character.

This Moss is not uncommon on banks surrounding woods, also in shady lanes; I have observed it in great plenty on a bank on the right hand side as you enter *Shirley-Common*, passing through *Shirley* from *Croydon*, also about *Charlton* and *Coombe Woods*.

It produces its Capsules in February and March.



*Bryum caput-medusae**Bryum argenteum*

BRYUM ARGENTEUM. SILVER BRYUM.

BRYUM *Lin. Gen. Pl. CRYPTOGRAMIA MUSCI.*

Anthera operculata. Calyptra laevis. Filamentum e tuberculo terminali ortum.

Raii. Syn. Gen. 3. MUSCI.

BRYUM *argenteum* antheris pendulis, furculis cylindricis imbricatis laevibus. *Lin. Syst. Vegetab. p. 789. Sp. Pl. 1586. Fl. Suecic. n. 1008.*

BRYUM caulibus teretibus, capsulis ovatis acuminatis pendulis. *Haller. hist. 1821.*

BRYUM *argenteum. Scopoli. Fl. Carn. n. 1310.*

BRYUM pendulum julaceum argenteum et sericeum. *Dill. musc. 392. t. 50. f. 62.*

MUSCUS squamosus argenteus, ericae folio. *Vaillant. paris. 134. t. 26. f. 3.*

MUSCUS minimus e viridi argenteus, capitulis oblongis cernuis. *Mori. hist. 3. p. 627. f. 15. t. 6. f. 17.*

Confertim nascitur, cauliculis sessilibus, in ramulorum aliquot furculos teretes, (duarum trium linearum) divisos.

FOLIA ovata-lanceolata, acuta, pilo terminata, quadruplici alterna serie disposita, tam arcte cauli appressa sunt, ut nonnisi per lentem distingui possint, pilis creberrimis, sericeis, argenteis.

PEDUNCULI circa hiemem surgunt e basi cauliculorum, ab aliquot lineis ad semunciam longae, inferne purpureae, superne pallidiores.

CAPSULAE ovatae, nutantes, luteae, versus setam rubicundae, quae ab initio virides, et rectae ante maturitatem fuere. *Operculum* breve, obtusum, aurantiacum. *Ora* ciliata, *Calyptra* e viridi fusca, quae nonnisi in junioribus capsulis reperitur.

Stalks growing close together and sessile, dividing into round furculi two or three lines in length.

LEAVES oval pointed, terminated by a hair, disposed in an alternate quadruple row, so closely pressed to the stalk, as to be scarce visible without a magnifier, the hairs exceedingly numerous, silky, of a silver colour.

PEDUNCLES arise from the bottom of the stalks, about winter, from a few lines to half an inch in length, below purplish, above paler.

CAPSULES oval, pendulous, yellowish, but near the peduncle reddish, when young green, and upright. *Operculum* short, obtuse and of an orange colour. *Mouth* ciliated, *Calyptra* of a greenish brown, and only visible in the young capsules.

It is not possible in painting to do justice to the silvery appearance which this little moss usually puts on, and which in general obviously distinguishes it from all our other Bryums, this silvery hue it however loses in some situations and appears of a green colour, especially in moist shelter'd places, where the leaves not only become greener but laxer also and the furculi grow to a much greater length, in this state it is figured by DILLENIUS as a distinct species, the furculi vary much likewise in their shape sometimes becoming very fine and almost thread shaped as represented at fig. 2. 3.

The Bryum argenteum produces its Capsules as early as December and January, and this their early appearance is one reason why they are not so often found as some others, but added to this it does not produce fructifications so plentifully as some other Bryums, large patches of it being often found perfectly barren.

It is very common on Walls and Banks.

Fig 1. to 7. represent it of its natural size in its various states, fig 8. to 12 magnified.

BRYUM CAESPITICIUM. MATTED BRYUM.

BRYUM *caespitium* antheris pendulis, foliis lanceolatis acuminato-setaceis, pedunculis longissimis. *Lin. Syst. Vegetab. p. 799. Sp. Pl. p. 1586. Fl. Suecic. 1010.*

HYPNUM foliis ovato-lanceolatis aristatis patulis, capsulis ovatis obtusis pendulis. *Haller. hist. 1790.*

BRYUM pendulum ovatum caespitium et pilosum, seta bicolori. *Dill. Musc. 396. tab. 50. f. 66.*

MUSCUS capillaceus minimus, capitulo nutante, pediculo purpureo. *Vaill. paris. 134. t. 29. f. 7.*

MUSCUS trichoides capitulo parvo reflexo, pediculo ima medietate rubro, summa luteo-viridi. *Moris. H. Ox. III. p. 629. f. xv. t. 6. f. xv. Raii. Syn. p. 100. n. 44.*

CAULICULIS in densos caespites congestis, lata strata efficit, supra muros imprimis et in terra glareosa. *fig. 3.*

SURCULI ipsi breves, et ad aliquot tantum lineas super terram eminentes, *fig. 1. 4.* subramosi, inferius multo tomento fusco obsiti.

FOLIA exigua, dense congesta, ovato lanceolata, pilo incano terminata, pallide e luteo viridia, sericea, splendentia, sub lente in humida planta pellucida. *fig. 14. 16.*

PEDUNCULI unciales, *fig. 5.* inferne purpureae, superne luteae, e furculorum annotinorum rofula terminali prodeunt, *fig. 1.* inter ramulos, five potius furculos juniores, bulbillo instructi, *fig. 2.*

CAPSULA ex ovato-cylindrica, ab initio erecta *fig. 7.* tenuior, deinde sensim crassescens, pendula, *fig. 8. 9. 11.* sublutea, operculo tecta papilliformi, miniato, nitido, quo secedente ora apparet ciliata. *fig. 12.*

CALYPTRA in junioribus erecta, gracilis, conica, pallide fusca, in adultioribus rufa, inclinata. *fig. 7. 8. 9.*

STALKS growing closely together, form broad turfs particularly on walls and gravelly situations. *fig. 3.*

SURCULI themselves short, raised a few lines only above the earth, somewhat branched, *fig. 1. 4.* below cover'd with a brown wooly kind of substance.

LEAVES small, closely compacted, oval pointed, terminated by a grey hair, of a pale yellowish green colour, silky, shining; under a magnifier, in the moist plant transparent. *fig. 14. 16.*

PEDUNCLES about an inch in length, *fig. 5.* below purple, above yellow, proceeding from the top of the last years furculus *fig. 1.* between the branches or rather younger furculi, furnished with a small bulb. *fig. 2.*

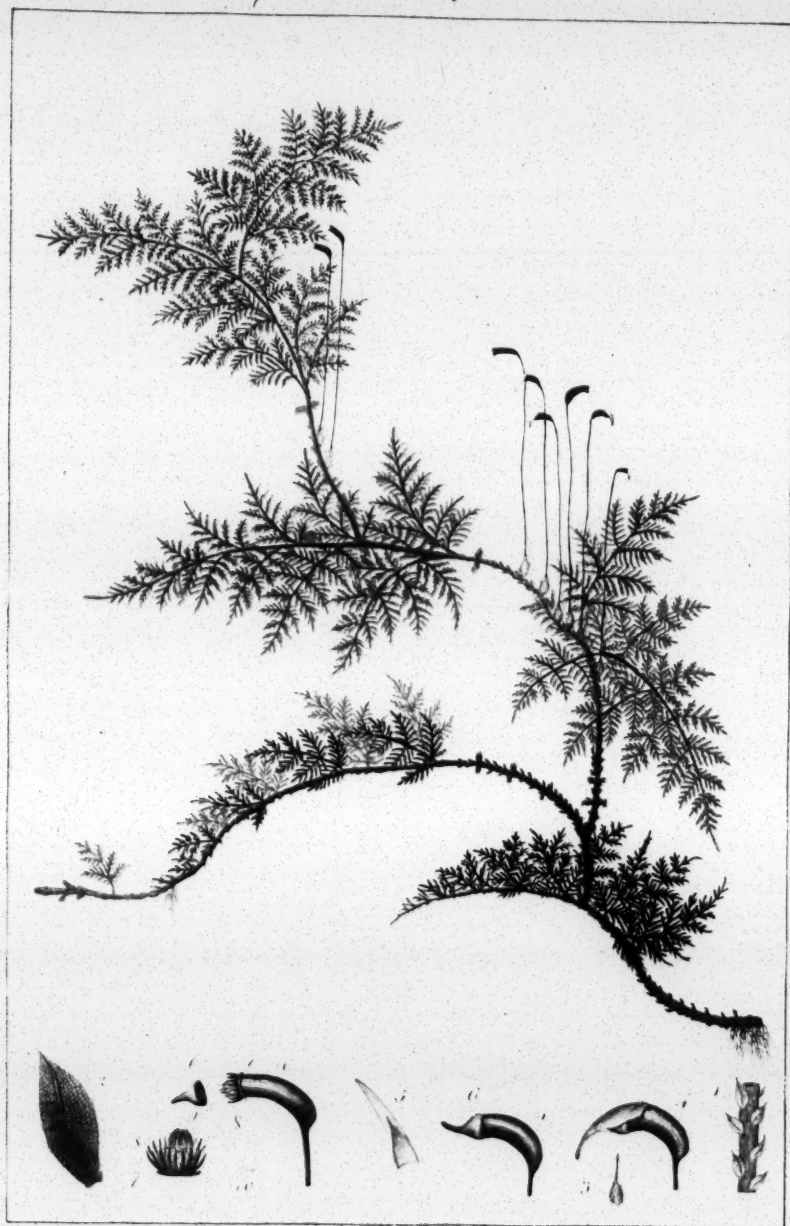
CAPSULE of an oval cylindrical form, at first upright. *fig. 7.* slender, afterwards becoming gradually thicker and pendulous, *fig. 8. 9. 11.* of a yellowish colour, cover'd with a small, short, prominent red and shining operculum, which falling off the mouth appears ciliated. *fig. 12.*

CALYPTRA on the young capsules upright, slender, conical, and of a pale brown colour, in those more advanced reddish brown, and inclined to one side. *fig. 7. 8. 9.*

This species of Bryum is very commonly met with on Walls also on gravelly and sandy soils producing its Capsules in February, March and April, it varies much in size, in the shape of its leaves and the length of its Surculi.



Hygnum Picturatum.



HYPNUM PROLIFERUM. PROLIFEROUS HYPNUM.

HYPNUM *Linnaei Gen. Pl. CRYPTOGRAMIA MUSCI.*

Raii Syn. Gen. 3. MUSCI.

HYPNUM *proliferum* furculis proliferis, plano-pinnatis, pedunculis aggregatis. *Linnaei Syst. Vegetab. p. 800.*

HYPNUM ramis teretibus pinnatis, pinnulis pinnatis, foliis adpressis. *Haller. hist. 3. p. 33.*

HYPNUM filicinum, Tamarisci foliis minoribus, non splendentibus. *Dillen. p. 276. icon. 35. fig. 14.*

HYPNUM repens filicinum minus, luteo virens. *Catal Gifs. 217. Raii Synop. p. 86. n. 36. Hudson, Fl.*

Angl. p. 422. Weis Cryptogam. p. 230.

CAULES palmares ad dodrantes, repentes, hinc inde radículas fúscas exferentes, sæpe vero adeo intricate connexi ut humi serpere nequeant, foliis ovato-acuminatis, carinatis, mucronatis, sparfe tectis, *fig. 1.* horum foliolorum superficies, microscopio valde aucta granulosa apparet, *fig. 2.*

RAMI pulchre pinnati, deflexi, virescentes, ad luteum colorem plus minusve accedentes pro ratione situs aut anni temporis, *omni splendore destituti, rachis concolor,* ad extremitatem plerumque incrassatus. RAMULI et PINNULÆ foliolis exilissimis, confertis, nudo oculo vix conspicuis imbricatim tecti; e disco rami, aut frondis, novus caulis aut furculus plerumque exsurgit, unde plantula mire extenditur ac propagatur, et hinc *Prolifer* vocatur.

PEDUNCULI sesquiunciales, rubri, plerumque quatuor aut quinque, aliquando plures e caule aggregatim assurgunt, et in quibusdam caulibus, Perichætia plura aut potius eorum rudimenta occurrunt, e quibus Pedunculi sequente anno probabiliter nascuntur.

PERICHÆTIUM *fig. 3.* aut basis pedunculi, ovatum, foliolis tenuibus pilo longo flexuoso terminatis vestitum. CAPSULÆ sive ANTHERÆ *fig. 4.* quæ Semen aut Pollinem continent, incurvatæ, ex fusco aurantiacæ. OPERCULUM *fig. 6.* (quod collo capsulæ infigitur, et femine maturescente decedit) breve, et acuminatum. Orificium Capsulæ duplici serie Ciliarum instruitur *fig. 8. 9.* CILIAE exteriores *fig. 8.* aurantiacæ, divergentes, apicibus aliquando paululum inflexis, et cum aridæ sint fragiles; interiores *fig. 9.* convergentes, membrana reticulata connexæ, ad quam videndam microscopio opus est. POLLEN sive SEMEN viride. CALYPTRA *fig. 5.* quæ anthera cum suo Operculo partim tegitur et quæ primum decedit albida est.

STALKS from three to nine inches in length, creeping on the ground, and here and there sending forth small brown fibres, but very often so intricately connected together as to be hindered from creeping, thinly covered with leaves of an oval pointed shape, having a strong midrib, which runs out to a fine point *fig. 1.* when greatly magnified the surface of these leaves exhibits a granulated appearance *fig. 2.*

BRANCHES beautifully pinnated, and bending downward, of a green colour, more or less inclined to yellow, according to its place of growth, and the season of the year, *without any gloss;* the midrib of the same colour with the leaves and generally thicker at its extremity; the small leaves, laying one over another, and scarce discernible to the naked eye. From the middle of the branch or Frons most commonly arises a new stalk, or furculus, by which means this plant is singularly extended and propagated, and from this circumstance it acquires the name of *Proliferous.*

PEDUNCLES about an inch and a half in length, of a bright red colour, generally about four or five, sometimes more, spring from the stalk nearly together, in some of the stalks there is the appearance of several *Perichætia* without peduncles, which probably arise from them the next year. The PERICHÆTIUM *fig. 3.* which is the base of the peduncle, is of an oval shape, and covered with small leaves which terminate in a long flexible point. The CAPSULES or ANTHERÆ containing the pollen or seed *fig. 4.* are incurvated, and of a brown orange colour. The OPERCULUM *fig. 6.* (which fits on to the top of the Capsule, and when the seed contained within it, is ripe, falls off) is short, and pointed; the mouth of the Capsule has two rows of CILIAE *fig. 8. 9;* the exterior row *fig. 8.* orange coloured, and diverging, the tops of them sometimes bending a little inward, and brittle when dry, the interior row *fig. 9.* converging, of a membranous texture, and when very much magnified, appearing reticulated. The POLLEN or SEED contained within the Capsules is green. The CALYPTRA *fig. 5.* which partly covers the anthera and operculum, and first drops off is of a white colour.

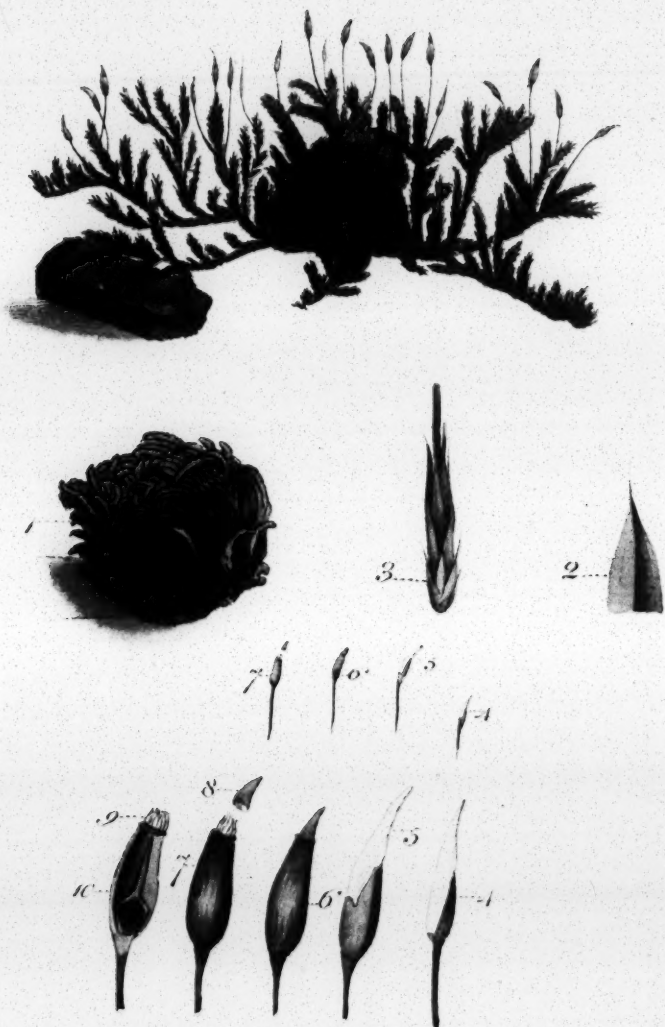
There is scarce a Wood in the environs of this City, on the borders of which this elegant species of Moss doth not occur.

It produceth its fructifications from December to February; in this state however it is but seldom met with, yet may be found by diligent searching. *Linnaeus* in one of his journies through Sweden, observed this Moss growing in the thickest Woods, obscured with perpetual shade, and where all other plants perished.

Most of the writers who have made this class of plants more particularly the object of their enquiries, have generally made two distinct Genera of the Hypnum and Bryum, yet so great is the affinity betwixt them, and so much do they run into one another, that what some of these Authors call a Bryum, others denominate a Hypnum; indeed this division seems adopted more to facilitate the investigation of the plants of this numerous family, than from any real natural division which takes place between them. The difference between some of the Hypnums and some of the Bryums is obvious to almost every one, but to ascertain the limits where the one begins and the other terminates, seems a task too difficult for the most accurate Botanist.

The principal Characteristics of a Bryum according to *Linnaeus*, are, that the peduncle which sustains the Anthera or Capsule, grows out of the top of the furculus or stalk, and is furnished at its base with a little naked tubercle or bulb; in the Hypnum on the contrary, the peduncle grows out of the side of the stalk and the tubercle at its base is covered with leaves and called a Perichætium.





Hypnum sericeum

HYPNUM SERICEUM. SILKY HYPNUM.

HYPNUM *Linnaei Gen. Pl. CRYPTOGAMIA MUSCI.*

Anthera operculata. Calyptra levis. Filamentum laterale ortum e perichætio.

Raii Syn. Gen. 3. MUSCI.

HYPNUM *sericeum* furculo repente, ramis confertis erectis, foliis subulatis, antheris erectis. *Lin. Syst. Vegetab. p. 801. Sp. Pl. p. 1595. Fl. Suecic. n. 1036.*

HYPNUM *sericeum. Scopoli. Fl. Carniol. p. 340.*

HYPNUM ramis teretibus; foliis pilo præpilatis; capsulis cylindricis, erectis, aristatis. *Haller. hist. n. 1750.*

HYPNUM vulgare sericeum recurvum, capsulis erectis cuspidatis. *Dillen. Musc. 323. t. 42. f. 59.*

MUSCUS terrestris luteo-viridans sericeus repens. *Moris. hist. 3. p. 626. f. 15. t. 5. fig. 25.*

MUSCUS arboreus splendens sericeus. *Vaill. Paris. 132. t. 27. fig. 3.*

HYPNUM repens trichoides terrestre luteo virens vulgare majus, capitulis erectis. *Raii Syn. p. 84.*

Hudson. Fl. Angl. ed. 1. p. 428.

Lightfoot. Fl. Scot. v. 2. p. 762.

CAULES five viticuli longi, repentes, fibrillis copiosis, tomentosis adhærentes, valde ramosi, in densos cæspites congesti, ramis creberrimis, furcatis, brevibus, subteretibus, in siccitate incurvis, *fig. 1*, tactu rigidis, in humiditate rectis mollibus.

FOLIA ovato-lanceolata, *fig. 2*, in pilum longum terminata, densissime imbricata; in siccitate appressa, capillaria; humida latoria, patula, ex obscuro viridia, cum sericeo splendore ad luteum vergente.

PEDUNCULI femunciales, unciales, purpureæ, perichætio squamoso cinctæ, *fig. 3*, confertæ, circa medium furculi ortæ.

CAPSULÆ oblongæ, teretes, erectæ, inferne paululum incrassatæ, ex livido fuscæ, *fig. 6, 7*, per medium discissa, *fig. 10*.

CALYPTRA pallida.

OPERCULUM breve, rostratum, miniatum, *fig. 8*.

CILIÆ albidæ, erectæ, una tantum series, *fig. 9*.

STALKS, or shoots, long, creeping, adhering by numerous small, woolly fibres, very much branched, and forming close tufts; branches numerous, upright, short, and roundish; when dry, bending down at top, and somewhat stiff, *fig. 1*; when moist, upright and soft.

LEAVES oval and pointed, *fig. 2*, terminating in a long hair, lying closely one over the other, when dry pressed together, and very fine; when moist broader, and more spreading, of a dullish green, inclining to yellow, with a shining silky appearance.

FOOT-STALKS an inch and a half or an inch long, purple, at bottom covered with a scaly perichætium, *fig. 3*, arising from about the middle of the shoots.

CAPSULES oblong, round, upright, somewhat enlarged at bottom, of a livid brown colour, *fig. 6, 7*; cut down the middle at *fig. 10*.

CALYPTRA pale brown.

OPERCULUM short, ending in a beak of a bright red colour, *fig. 8*.

CILIÆ or hairs whitish, upright, and one row only, *fig. 9*.

THE *Hypnum sericeum* is one of our most common, as well as one of our earliest *Mosses*, producing its Capsules from September to February.

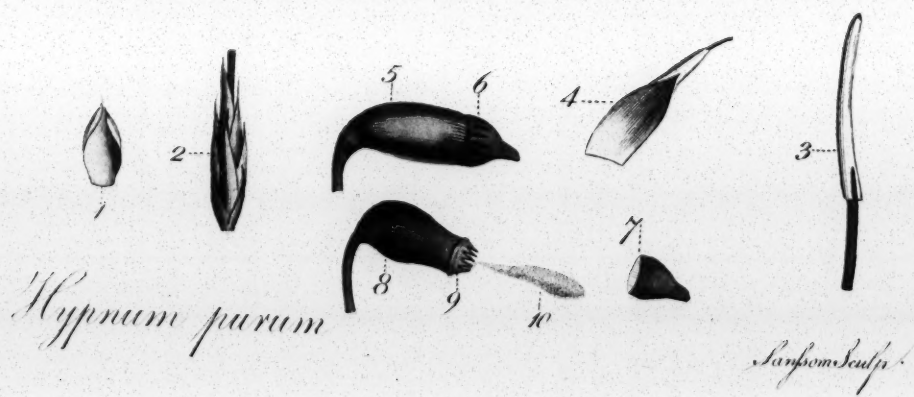
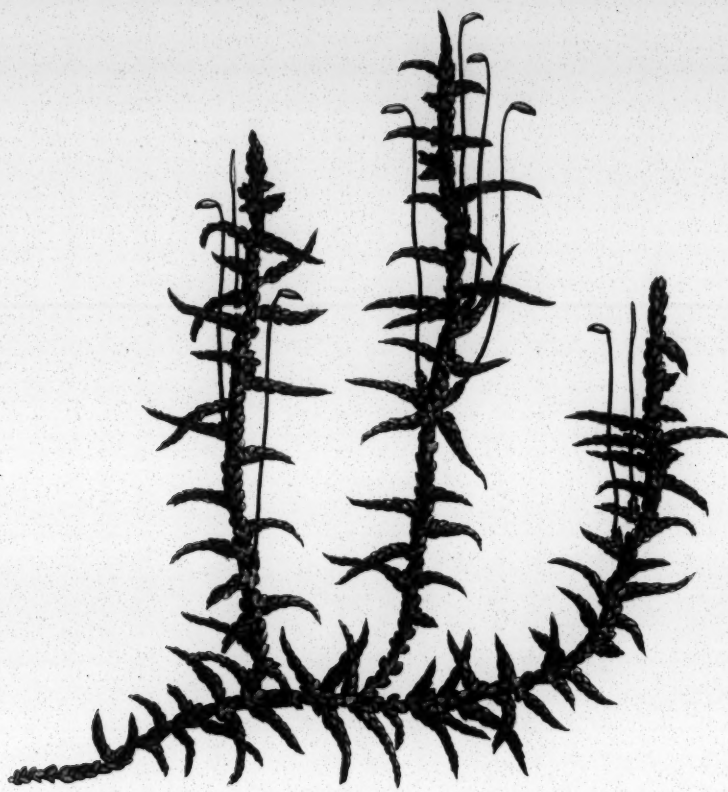
It generally puts forth its fructifications in the greatest plenty, on the tops of old walls. It creeps also on the ground, as well as on the trunks of trees.

None of our *Mosses* afford a more beautiful carpet: it frequently exhibits all the richness and softness of silk, particularly when dry. But those patches of it, which put on this yellow and shining appearance, by which it is so readily distinguished, do not always produce fructifications in the greatest abundance.

It may be distinguished from the *Hypnum rutabulum*, which often occurs with it, by having longer and more upright Capsules.

DILLENIIUS has described this *Moss* with his usual accuracy, which is modernized, and somewhat improved by WEIS, from whom our description is almost literally taken.





HYPNUM PURUM MEADOW HYPNUM.

HYPNUM *Lin. Gen. Pl. CRYPTOGAMIA MUSCI.*

Anthera operculata, Calyptra lævis, Filamentum laterale ortum e perichætio.

Raii Syn. Gen. 3. MUSCI.

HYPNUM *purum* furculis pinnato-sparfis subulatis, foliis ovatis obtusis conniventibus. *Lin. Syst. Vegetab.*
p. 108. *Sp. Pl.* 1594. *Fl. Suecic.* 1031.

HYPNUM ramis teretibus, foliis ovato lanceolatis, setis prælongis, capsulis inclinatis, aristatis.

HYPNUM *purum.* *Scopoli Fl. Carniol.* n. 1326.

HYPNUM cupressiforme vulgare, foliis obtusis. *Dillen musc.* p. 309 fig. 45.

MUSCUS squamosus cupressiformis. *Vaillant Bot. paris.* p. 138. n. 15. *Tab.* 28. f. 3.

HYPNUM terrestre erectum, ramulis teretibus, foliis inter rotunda et acuta medio modo se habentibus.

Raii. Syn. 81.

Hudson. Fl. Angl. ed. 2. p. 504.

Lightfoot Fl. Scot. p. 753.

CAULES teretiusculi, suberecti, simplices seu ramosi, squamosi, nitentes, apicibus plerumque craf-fioribus.

RAMULI pinnato-sparfi, teretiusculi, subulati, plerum-que recurvi.

FOLIA ovata, obtusa, mucronata, convexo concava, tenera, nitida, dense imbricata, adpressa, pal-lide virentia fig. 1. *auct.*

PEDUNCULI nobiscum non raro occurrunt mense Novembri, unciales et biunciales, erecti, infer-ne ruberrimi, superne flavescentes, parum flexuosi, nitidi.

PERICHÆTIUM oblongum, squamosum, squamæ erectæ, lanceolata, adpressæ. fig. 2.

CAPSULÆ adultæ subovatæ, parum nutantes; fig. 5. 8. *Calyptra* membranacea, lævis, primo erecta fig. 4. cito caduca fig. 3. *Operculum* breve, conicum, fig. 6. 7; *Ciliæ*, externæ plurimæ, setaceæ, rigidulæ, rufescentes; internæ mem-branæ connexæ, apice convergentes; *Pollen* seu *Semen* virens. fig. 10.

STALKS roundish, somewhat upright, simple or branched, scaly, shining, the tops generally thicken'd.

SMALL BRANCHES numerous, irregularly pinnated, tapering, generally bent back.

LEAVES ovate, obtuse, but terminated by a short point or awn, convex on one side and concave on the other, tender, shining, numerous, laying closely one over the other, of a pale green colour. fig. 1. *magnif.*

PEDUNCLES not unfrequent with us in the month of November are from one to two inches in length, upright, below of a bright red colour, above yellowish, a little crooked and shining.

PERICHÆTIUM oblong, scaly, scales upright, lan-ceolate and press'd to the bulb. fig. 2.

CAPSULES when full grown are somewhat ovate, and a little nodding fig. 5. 8. *Calyptra* membranous, smooth, at first upright fig. 4. soon falling off fig. 3; *Operculum* short and conical fig. 6. 7; the outer *Ciliæ* numerous, tapering, some-what rigid and of a reddish brown colour, the the internal ones connected by a membrane and converging to a point; *Pollen* or seed of a greenish colour. fig. 10.

THE *Hypnum purum* has been considered as producing its Fructifications but sparingly, yet if it be examined at the proper season of the year viz. in the month of November, the period of its greatest perfection, it will not be found deficient in this respect, at that time its leaves are of a bright green colour, but as the plant advances they change to a yellower hue than most others.

DILLENIIUS makes no mention of the *Calyptra* belonging to this moss, from whence it would appear that like most other Botanists he examined it at too late a period; in general those Capsules which have a short *Operculum* carry the *Calyptra* but a little while, as in the present plant, while those in which the operculum is long bear it often to the falling off of the operculum itself as in the *Bryum undulatum*.

This is one of the most general Mosses we have, growing in woods, in pastures and by hedge sides universally, in the former it is most frequently found with its capsules, the oak of Honour Wood and the woods adjoining pro-duce it in this state at the time above mentioned in the greatest plenty; being a moss generally free from all impuri-ties it is made use of by the anglers in Lancashire and probably in other counties to scour their worms in. *Dill. hist. musc. p. 310.*

HYPERBOLIC MATHS

CHAPTER I

THEORY OF THE HYPERBOLIC FUNCTIONS

SECTION I

DEFINITIONS

ARTICLE I

DEFINITION I

DEFINITION II

DEFINITION III

DEFINITION IV

DEFINITION V

DEFINITION VI

DEFINITION VII

DEFINITION VIII

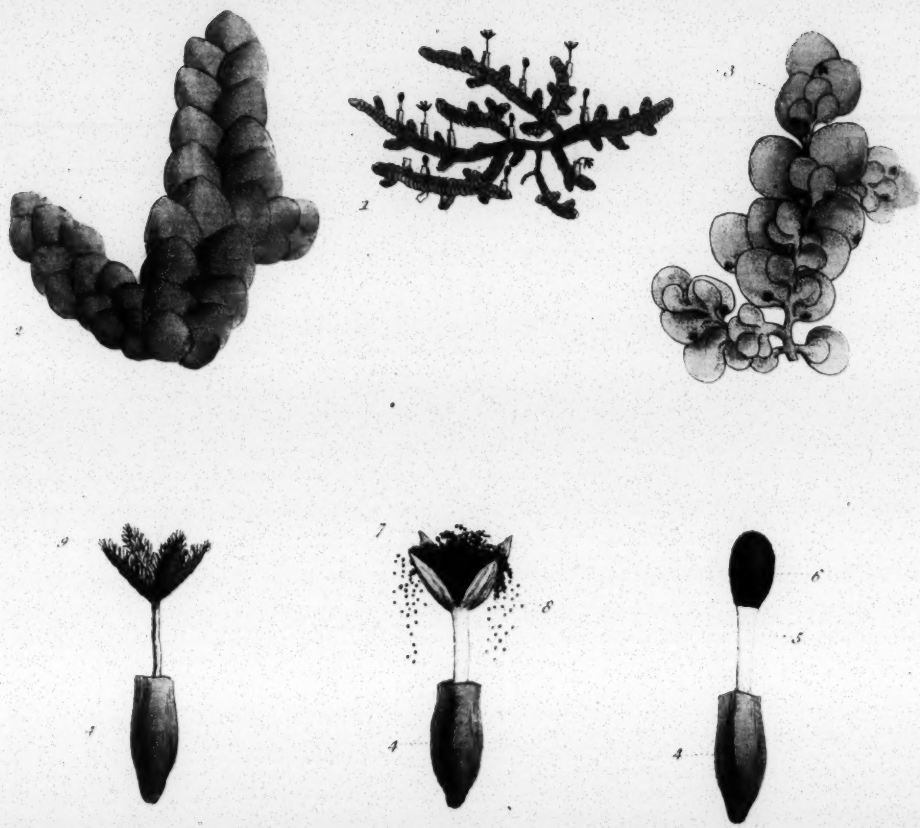
DEFINITION IX

DEFINITION X

DEFINITION XI

DEFINITION XII





Jungermannia complanata

JUNGERMANNIA COMPLANATA. FLAT JUNGERMANNIA.

JUNGERMANNIA. *Lin. Gen. Pl.* CRYPTOGRAMIA ALGÆ.

MASC. pedunculatus, nudus. *Anthera* quadrivalvis.
FÆM. fœfiliſ, nudus, feminibus ſubrotundis.

Raii Syn. Gen. 18. MUSCI.

JUNGERMANNIA *complanata* ſurculis repentibus, foliolis inferne auriculatis, duplicato-imbricatis, ramis æqualibus. *Lin. Syſt. Vegetab.* p. 803. *Sp. Pl.* p. 1599. *Fl. Suec.* 1041. *Weis. Cryptog.* p. 124.

JUNGERMANNIA foliis rotundis alterne imbricatis, caule plano multifloro, ſetis breviffimis. *Haller Hiſt.* n. 1860.

JUNGERMANNIA *complanata*: ſurculo reptante, foliis ſubrotundis ferie duplici ordinatis, ſubtus appendiculatis; vaginis ramorum plano-truncatis. *Necker. Meth. Muſc.* p. 142.

LICHENASTRUM imbricatum majus ſquamis compreffis et planis. *Dillen. Muſc.* 496. t. 72. f. 26.

JUNGERMANNIA foliis circinatis imbricatum diſpoſitis ex viridi flaveſcentibus. *Michel. Gen.* 7. t. 5. f. 21.

LICHENASTRUM imbricatum majus. *Raii Syn.* 111. *Hudſon. Fl. Angl.* p. 514. *Lightfoot Fl. Scot.* p. 781.

Deſcriptio ex WEIS.

SURCULIS variæ longitudinis, ab unciali ad biuncialem longitudinem, planis, inordinate ramiſis, ad cortices arborum, latis cæſpitibus repit.

FOLIOLA denſe imbricata, alterna, rotunda, ſubpellucida, plana, ſurculi nervum ſuperne tegunt; inferne nervo adherent parvæ, rotundæ ſquamulæ. Color pallide e luteo viridis. Recens mollis tactu eſt, aqua madida tota flacceſcit. Ad extremitates, et paſſim ad exortum ramulorum prodeunt thecæ planæ, ſquamis duplo vel triplo longiores, dilute virides, truncatæ, e quibus ſetæ breves, lineam non excedentes emergunt, tenuiſſimæ, cum parvis nigris capitulis, in fuſcas lacinulas piloſas diſſilientes.

- Fig. 1. Planta magn. nat.
Fig. 2. Pars ejuſdem lente aucta.
Fig. 3. Pars ejuſdem inferior.
Fig. 4. Theca ſeu Vagina.
Fig. 5. Pedunculus.
Fig. 6. Capitulum adhuc integrum.
Fig. 7. Capitulum ſindens pulveremque ſpargens.
Fig. 8. Capitulum deniſſo pulvere.

Deſcription from WEIS.

SURCULI of various lengths, from one to two inches, flat, irregularly branched, creeping on the bark of the trees in large patches.

LEAVES of a pale yellow-green colour, cloſely imbricated, alternate, round, ſomewhat transparent, flat, above entirely covering the mid-rib of the ſurculus, beneath ſmall round ſcales adhere to the mid-rib, the whole plant, when freſh, is ſoft to the touch, moiſtened with water it grows flaccid. At the extremities, and here and there at the origin of the branches, proceed flat ſheaths appearing truncated or cut off at top, from whence proceed ſhort ſetæ or peduncles about a line in length, very ſlender, and terminated by ſmall black heads ſplitting into four brown hairy ſegments.

- Fig. 1. The plant of its natural ſize.
Fig. 2. A part of the ſame magnified.
Fig. 3. The underſide of the ſame.
Fig. 4. The Caſe or Sheath.
Fig. 5. The Peduncle.
Fig. 6. The Capitulum as yet entire.
Fig. 7. The Capitulum ſplitting and diſcharging its powder.
Fig. 8. The Capitulum with the powder diſcharged.

The name of *Jungermannia* was given to this genus by MICHELI in honour of JUNGERMANNUS, a botaniſt of the laſt century.

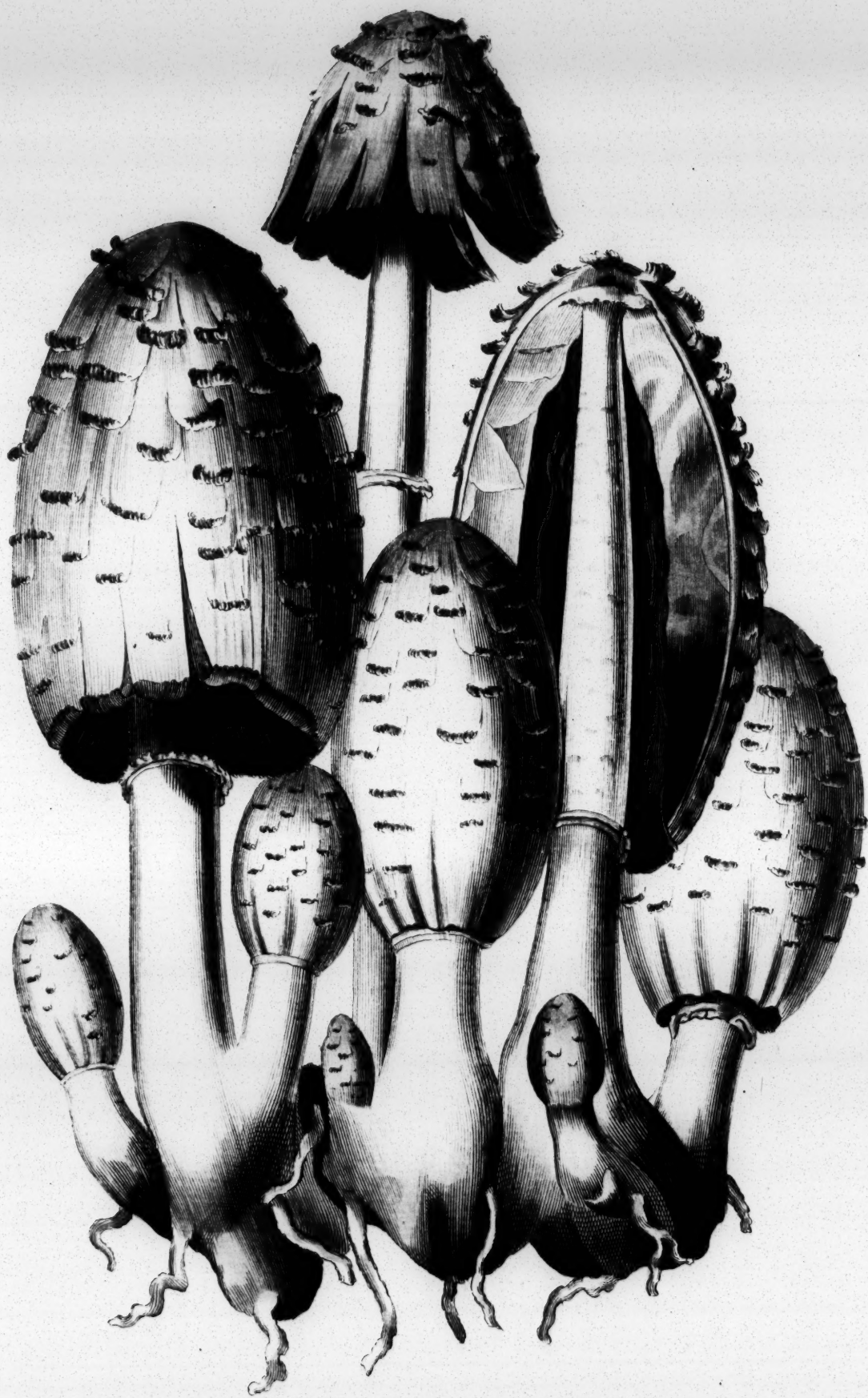
As LINNÆUS conſiders the Capſules of the Moſſes as the *Antheræ* containing *Pollen*, ſo in like manner he regards the *Capitula* of the preſent genus as containing *Pollen* alſo, and the little apparently pulverulent balls, viſible only on a few of the *Jungermannia*, but found on moſt of the *Mnia* as the female flowers, producing ſeeds. Vid. *Generic Character*.

With all due deference to ſuch reſpectable authority, we are of opinion, that the character of this genus would be leſs complex, and equally complete, without calling in thoſe balls or ſphærophylli, as NECKER terms them, at all.

The *Capitula*, or little heads, ſplitting when ripe into four parts, replete with a fine powder (whether pollen or ſeed is immaterial) attached to numerous hairs growing to the inſide of the *Capitula*, are characters which will in all caſes ſufficiently diſtinguiſh this genus. The little heads of theſe plants are capable of affording much microſcopic entertainment. Take a head ready to burſt open, place it before the microſcope, aſſiſt its opening with the point of a needle, and the elæſtic hairs on the inſide will inſtantly appear in motion, and throw off the globules attached to them in great numbers, and with conſiderable force.

The preſent ſpecies is one of the moſt common of this genus, and may be found in great plenty and perfection about the end of *January*, ſpreading on the bark of the Oak and other trees in woods, particularly *Charlton Wood*. It is diſtinguiſhable from another, equally common, by the pale green colour of its leaves.





Agaricus Simetarius

AGARICUS FIMETARIUS EGG MUSHROOM.

AGARICUS *Linnaei* Gen. Pl. CRYPTOGRAMIA FUNGI.

FUNGUS horizontalis subtus lamellosus.

Raii Syn. Gen. I. FUNGI.

AGARICUS *fimetarius* stipitatus, pileo campanulato lacero, lamellis nigris lateraliter flexuosis, stipite fistuloso.

Lin. Syst. Vegetab. p. 820. Spec. Pl. p. 1643. Fl. Suecic. n. 1215.

AMANITA albus, campanulatus, squamosus, nigrescens. Haller. hist. helv. p. 157. n. * 2357.

AGARICUS *fimetarius*. Scopoli Fl. Carniol. n. 1484.

AGARICUS pileo campanulato, contracto, striato et villoso, lamellis tenuissimis; petiolo cylindraco, annulo fugaci, distincto, vel nullo. GLEDITCH. Fung. p. 122.

FUNGUS albus ovum referens. Buxbaum. Cent. 4. t. 27. fig. 1. Raii Syn. p. 5. n. 22. Hudson. Fl. Angl. p. 493. Lightfoot. Fl. Scot. p. 1021. Schaffer tab. 7. 8. 46. 47. 100.

Gregatim plerumque nascuntur hi Fungi, subinde vero solitarii inveniuntur.

STIPES primum pileo penitus obtegatur, mox semipedalis, evadit, cylindricus, fistulosus, albissimus, medullâ filiformi, intra tubum liberâ.

VOLVA nulla, sed margo instar volvæ ex margine pilei lacero stipitem cingente infra laminas.

PILEUS albus, in junioribus oblongus digitalis, mox subcampanulatus, demum fere planus; CARO tenuis, CUTIS in squamas fuscas laciniatas sursum revolutas separans, quæ cælo intempestivo pluviis sæpe abluuntur, pileo decorticato albo relicto.

LAMELLÆ numerosæ, lineas tres latæ, primum albissimæ, farinâ quasi adpersæ, in adultis laxæ, flexuosæ cum ruboris tincturâ, demum nigricantes, in liquorem atramentosum diffuentes.

These Mushrooms most commonly rise out of the ground in clusters, sometimes they grow singly.

STALK at first is wholly covered by the Pileus or Cap, but soon grows to the height of six inches, is cylindrical, hollow and very white, the pith within the tube is shaped like a thread and loose.

RING proper, none, but a slight edging like a ring from the torn edge of the cap surrounds the stalk below the gills.

CAP white, in the young ones oblong, the length of the finger, presently becoming somewhat bell-shaped, finally almost flat; the FLESH thin; the SKIN separating into brown flakes which curl upwards, and which in showery weather are often washed off by the rains, leaving the Cap naked and white.

GILLS numerous, three lines broad, at first exceeding white and covered as it were with powder, when full grown they are loosely connected and waved, with a tinge of red, finally they become black and dissolve into an inky liquor.

The FUNGI, generally known in English by the names of *Mushrooms* and *Toad-stools*, are a tribe of plants, which, while they have afforded abundant matter of curious inquiry to the philosophic naturalist, have hitherto eluded the most unwearied attempts of the Botanist to reduce them to their several species and varieties.

Although, in point of Utility to mankind, they may not compare with many other families of plants, yet are they by no means without their importance in the general œconomy of nature. Whatever is not immediately applicable to our own wants, we are apt to think too lightly of; forgetting, that the infinitely more numerous Inhabitants of this terraqueous Globe, are equally the objects of the care of an all bountiful Creator.

A great variety of Insects feed on the different species of Fungi, particularly the *larvæ* or *maggots*, of many of the Fly kind, *Musca* Linn.

In some Countries, Mushrooms are made much more an object of food than with us; this prompts the inhabitants often to eat such as are in their natures poisonous, whence direful effects have too often proceeded. With us they are used more as an article of luxury, and the markets being chiefly supplied by the cultivators of them, who propagate one particular species, these fatal accidents scarce ever happen here.

To prevent, however, any accidents of this kind, perhaps the best advice would be to caution persons in general, to meddle with no other sort than the common field Mushroom, which is generally cultivated; and rather to procure such of those who cultivate them, than of those who may occasionally offer them to sale: and to render a knowledge of this species more obvious, we propose, in a future number, to give a figure of it in all its states, and shall endeavour to distinguish it from the others in the plainest manner.

From the observations already made on this Genus, we are led to think, that the several species of them are more distinct, and less liable to those amazing alterations, which Botanists inform us of, and which indeed, are sufficient to intimidate the Student, and deter him, from entering on a field, where he is to expect nothing but confusion, and be lost in the perplexing mazes of endless varieties. There is one pleasing circumstance attends the *Fungi*: they make their principal appearance in Autumn, at a time of the year, when the Botanist is most at leisure to observe them, and when scarce any other plants engage his attention. Next succeed the wintry Mosses: and thus the Botanist's perpetual summer is rendered complete.

The species here figured is not eaten with us; yet there appears no reason to suspect its being in any degree poisonous.

It occurs very frequently, towards the end of September, by the sides of Roads, growing out of the ground, probably where there has been some dung intermixed.

It is distinguished from the other *Fungi* by its oblong oval shape; and in a more particular manner, by the raggedness of its outer coat, which curls up in flakes; but it is apt to be washed off in heavy rains. The gills are large, numerous, and waved, at first of a reddish purple colour, and often white, finally dissolving into a black liquid, like many others of the same kind.





Lansom Sculp

Agaricus ovalus

AGARICUS OVATUS. PUCKER'D MUSHROOM.

AGARICUS *Linnaei Gen. Pl. CRYPTOGAMIA FUNGI.*

Raii Syn. Gen. I. FUNGI.

AGARICUS *ovatus* pileo ovato subplicato, stipite nudo ad basin attenuato scabriusculo; lamellis creberrimis subcoalescentibus.

AMANITA pileo ovato striato, cinereo, annulato, fugaci. *Haller hist. helv. n. 2479.*

AGARICUS *ovatus. Scopoli Fl. Carniol. n. 1579. Diagn. Albus, cespitosus; vertice rufescente; stipite cylindrico et annulo fugaci cincto.*

AGARICUS; volva exceptus, pileo campanulato, striato, vertice lævi, petiolo annulato, cylindraco, fistuloso, in basin rostratum definente. *Gleditch, Method. Fungor. p. 89.*

FUNGUS, qui volvam vix egressus in atramentum resolvitur, pileolo campanulato, plumbeo, vertice lævi, reliqua parte striato, pediculo cylindrico, albo, fistuloso, radice rostrata. *Michel. N. Pl. G. 189. t. 80. f. 5.*

FUNGUS multiplex ovatus cinereus. *Vaill. p. 73. t. 12. fig. 10, 11.*

FUNGUS superficiei murini coloris, lamellis albicantibus. *Raii Syn. p. 5. 21.*

AGARICUS *plicatus*, stipitatus, pileo ovato striato plicato cinereo, vertice lævi, stipite annulato fistuloso, basi subulato. Pucker'd Agaric, *Lightfoot Flora Scotica. p. 1023. Schæffer. icon. tab. 17. 67, 68.*

STIPES: Stipites plures e terrâ aut ligno semiputrido aggregatim affurgentes, inferne extra pileum *scabriusculi*; ad basin attenuati, fusci, superne intra pileum albissimi, subfulcati, ad apicem sensim attenuati, in adultis stipes semipedalis, subcylindricus, lævis, crassitie minimi digiti aut major evadit, modice firmus et carnosus, fistulosus, nudus; transversim sectus circulos in carne exhibens.

VOLVA nulla.

PILEUS *primum* ovatus aut obtuse conicus, circa orem contractus, et subplicatus, solidus, ponderosus, pallide fuscus; in *adultis* subcampanulatus, latitudine ad tres uncias accedens, murinus, maculis umbrinis aut ferrugineis præcipue ad verticem notatus, vertex saturatius colorata, lævis, subinde vero subsquamosa; latera plus minusve fulcata, *demum* fere planus, margine revolutus.

LAMELLÆ *creberrimæ, compactæ, latæ, filamentis transversis nudo oculo inconspicuis connexæ*, unde, ita coalescunt (presertim in junioribus) ut lamellam integram vix separare queas, primum albæ, mox pars inferior dimidia nigrescit, et tandem totæ lamellæ in liquamen atramentosum resolvuntur; superficies interna pilei in junioribus farinâ subtilissimâ canâ adspersa.

STALKS, generally springing from the earth, or decayed wood, in clusters; the lower part, without the cap, roughish, of a brown colour, and tapering to the base; the upper part, within the cap, very white, slightly grooved, and tapering gradually to the top; when full grown, it becomes six inches high, nearly cylindrical, smooth, and the thickness of the little finger, or larger, moderately firm and fleshy, hollow and naked, and cut through the middle shews circles in the fleshy part.

RING wanting.

CAP *first* oval or obtusely conical, the mouth contracted, and puckered around the stalk, solid, heavy, and of a light brown colour; *in the full grown ones*, somewhat bell-shaped, about three inches in breadth, of a mouse colour, marked with umber coloured or ferruginous spots, particularly at the top; the top of a deeper colour, smooth, but sometimes slightly chopped; the sides more or less deeply grooved, becoming *finally* almost flat, the edge curling up.

GILLS *very numerous*, compact, and broad, *connected together by transverse filaments, inconspicuous to the naked eye*, whence they so coalesce, that it is difficult to separate a single gill entirely; at first white, quickly the lower half becomes of a blackish colour, and lastly the whole of the gills dissolves into a black inky liquid: the internal surface of the cap, in the young ones, is sprinkled over with a very fine grey powder.

IT appears to be a matter of much doubt, whether this *Fungus*, common as it appears to be in most parts of Europe, be described by LINNÆUS. Certainly there are none of his *Agarici*, which accord exactly with ours: neither do HALLER, or SCOPOLI, quote LINNÆUS in their descriptions of it. SCHÆFFER, who appears to be too fond of multiplying plates, has given it in no less than three. It is true, by this means, the plant is represented in its various states; but, perhaps, these might have been satisfactorily exhibited in a single one.—If plants are thus to be delineated in all their varieties, natural history must sink under its own weight.

I suspect this species to be the *Fungus superficiei murini coloris lamellis albicantibus* of RAY, p. 5. n. 21. but cannot fix it with certainty. SCOPOLI has given it the name of *ovatus*, which I have retained, with Mr. LIGHTFOOT's English name, who has very accurately described it. I agree with him entirely in considering it as a species distinct from the *finetarius*, and with which, in my opinion, it has but little real affinity. The description and figure here given, when contrasted, will make it unnecessary to particularize the peculiarities which distinguish each. But there is a singularity of structure, occurring in the *ovatus*, which seems worthy of remark. The Gills are connected together by numerous transverse bars or filaments, discoverable only when greatly magnified: the use of these appears to be to keep the Gills at an equal distance from each other, and thereby prevent the fructifications which are situated on the flat surface of the lamellæ, from being pressed on, and destroyed, by their very great closeness. I have not hitherto observed this peculiarity of structure in any other *Fungus*: in the *finetarius* it certainly does not exist. These connecting filaments in the *ovatus*, make it exceeding difficult to separate one of the lamellæ entire.

These Fungi are very common with us in the borders of wet meadows, near the roots of willow trees, in gardens also, near houses, and by the sides of roads. They are found in the greatest plenty, from the beginning of September to the end of October. I have also found the same species in July. From the time of their springing up, to the time of their beginning to decay, is about five days. Their manner of decaying is similar to that of the *finetarius*, and several others; the gills dissolving into a very black liquor, like ink, which dropping, carries with it the seed of the Mushroom, which is observable in the liquor if greatly magnified.

It varies in size, and also in colour, chiefly from a lighter to a paler brown.

The Gills are often found full of little maggots.

There is no reason to suspect its being poisonous, nor yet can it be recommended as eatable.





Agaricus plicatilis.

AGARICUS PLICATILIS. PLAITED MUSHROOM.

AGARICUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellosus,

Raii. Syn. Gen. 1. FUNGI.

AGARICUS *plicatilis* stipitatus, pileo campanulato seu plano, murino, pellucido, plicato.

AGARICUS *crenulatus* membranaceus cœrulescens fulcatus, centro papillari, stipite exili. *Muller. Fl.*

Dan. t. 832. f. 2.

FUNGUS perpusillus, pediculo oblongo, pileolo tenui, utrinque striato, seu flabelli in modum plicatili.

Raii. Syn. p. 8. n. 24?

Batarr. Fung. Tab. 27. B. C.

STIPES solitarius, in adultis biuncialis et ultra, magnitudine culmi triticei minoris, erectus, teres, filiformis, fistulosus, lævis, albus, tener.

PILEUS cum primo erumpit nucleum nucis avellanæ magnitudine æquat, e flavo-fuscus, vix manifeste striatus, cito oblongo campanulatus evadit, striæ subundulatæ magis luculenter apparent, color in murinum incipit transire, nunc adultus, forma in campanulatam mutatur, mox evasura plana, uncialis seu sesquiuncialis, murinus, vertice plano, fusco seu albido, tenellus, plicatus; cutis diaphanus, sine carne, superne farinâ nullâ adpersus, fastigiis plicarum subvillosis, peractâ florentia margo invertitur et nigrescit.

LAMELLÆ paucae, concolores, pulverem subtilissimum e cœruleo-nigricantem effundentes.

STALKS single, in those which are full grown two inches or more in height, the size of a small wheat straw, upright, round, of the same thickness throughout, hollow, smooth, white, and tender.

CAP when it first springs up is about the size of the kernel of a hazle nut, of a yellowish brown colour, scarce preceptibly striated, it soon becomes of an oblong bell-shape, the small furrows appear more evidently, are somewhat waved, and the colour changes to grey or mouse colour, now full grown, it becomes more bell-shaped, and afterwards appears flat, is from an inch to an inch and half in diameter, of a mouse colour, tender, plaited, the crown flat, brown or whitish; the skin transparent, without any flesh, at top not sprinkled with meal, the ridges of the plaits somewhat villous, when the fructification is over, the edge becomes black and turns in.

GILLS few, of the same colour as the cap, throwing out a very fine powder of a blueish-black colour.

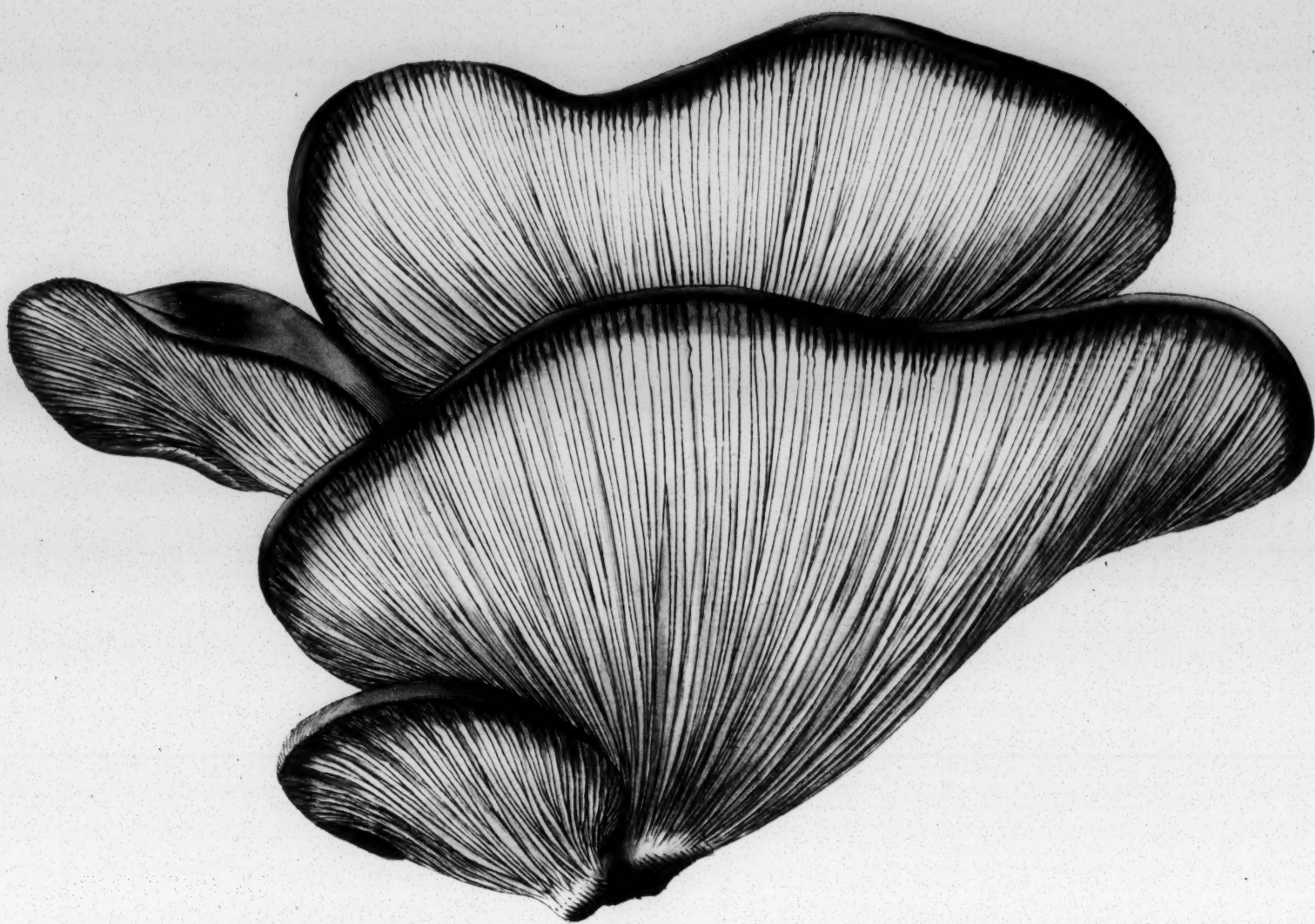
THE Mushroom here figured in its several states is one of those, whose caps in decaying dissolve into a black liquid, these in general are of short duration, and this being of so thin and delicate a substance is particularly so. On the twelfth of September ten or twelve of these of different ages made their appearance on a grass plat in my garden, and on the sixteenth no traces of them were to be seen.

Its usual place of growth is in Pastures, Meadows, and Grass Plats, in all of which it is not unfrequent in the Months of September and October.

The Cap is so remarkably plaited, or fan-like, that we could not but prefer a name expressive of so characteristic a circumstance to MULLERS term *crenulatus*, the *Agaricus tenellus* of Mr. HUDSON approaches so near to ours from his description, that we should have considered it as the same, had not PLUKENETS figure quoted by him been very different.

BOOK IV. THE HISTORY OF THE ROMANS. 32





Agaricus ostreatus.

AGARICUS OSTREATUS. OYSTER MUSHROOM.

AGARICUS *Lin. Gen. Pl. CRYPTOGRAMIA FUNGI.*

Fungus horizontalis, subtus lamellofus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *ostreatus* substipitatus, fasciculato-imbricatus, pileo cinereo obovato, margine involuto, lamellis albidis decurrentibus, basi subanastomosantibus.

AGARICUS *ostreatus. Jacquin. Fl. Austr. t. 104.*

Menſibus Decembri et Januarii e truncis arborum preſertim ſalicis nobiſcum excrescunt Fungi icone annexâ illustrati; plurimi plerumque simul erumpunt, imbricatim congeſti, diu manent et demum exſiccantur.

STIPES; etſi pileus trunco arboris utplurimum baſi ſuâ adneſcitur nihilominus in quibuſdam ſpeciminibus ſtipes ſeu pars ſtipitis magis luculenter apparet, lamellis decurrentibus tecta.

PILEUS magnitudine, et forma varius, ſicut in icone, in junioribus convexus, lævis, murinus, cæruleſcens, margine integro, involuto, in ſeneſcentibus planiſculus ſeu parum concavus, fuſcus, baſi in inferioribus tomento niveo obductâ; caro albiſſima, craſſa, ſubdulcis.

LAMELLÆ primum albæ, demum ex rufo-cinereæ, plurimæ, tenues, inæquales, a lineis duabus ad ſex latæ, decurrentes, baſi anastoſantes, exſuccæ.

In the months of December and January the Fungi illustrated by the annexed figure, grow with us principally out of the trunks of willow trees; they usually come forth in clusters heap'd one on another, remain a considerable time and finally wither,

STALK: although the cap is for the most part connected to the trunk of the tree by its base, yet in some specimens the stalk or part of a stalk more evidently appears, cover'd with the gills which run down it.

CAP variable both in size and shape as is represented on the plate, in the young ones convex, smooth, mouse coloured, blueish, the edge intire, rolled in; in the older ones flattish, or a little hollow, and brown; the base in the lower ones cover'd with a white kind of down; flesh very white, thick, and sweetish to the taste.

GILLS at first white, afterwards of a reddish ash colour, numerous, thin, unequal, from two lines to six in breadth, decurrent, uniting so as to form a kind of network at bottom, juiceless.

Considering the size and singularity of this Mushroom, and that is by no means uncommon, it is matter of surprize that it should have escaped the notice of our English Botanists; one reason perhaps may be assigned, viz. that it makes its appearance later in the season than most others: in December and January when the weather has been mild I have found it on the bodies of the old Willow Trees, in the neighbourhood of Saint Georges-Fields; Mr. DICKSON has observed it on the Elm, in Saint James's-Park, and JACQUIN from whom we borrow the name of *ostreatus*, describes it as growing out of the Walnut.

As this species and another with a footy stalk which we propose hereafter to figure, are almost the only ones that are found on trees so late in the year, it cannot easily be mistaken, tho' like most of the family it is given to sport; in general it grows in clusters of three, six, or more of different sizes, placed one over another, bearing a distant resemblance to oysters, when young and perfect they are of a mouse colour with a bloom on them like that of a plum, the edge is rolled in, the gills are white, decurrent, and beautifully anastomose at bottom, but it is not in every specimen that this distinguishing character is observable, as it grows old the pileus turns up (vid. uppermost fig. on the plate) the gills become of a brownish colour, and frequently much waved, and the whole withers on the tree, the two lowermost figures on the plate represent the Fungus in its young state and shew both sides.

To the smell it is slightly fragrant, to the taste mild, but in chewing tough.







Agaricus procerus

AGARICUS PROCERUS. TALL MUSHROOM.

AGARICUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellosus.

Raii Syn. Gen. I. FUNGI.

AGARICUS *anulatus* stipitatus, pileo campanulato subfusco squamoso, lamellis albidis, stipite bulboso anulato. *Lightfoot Fl. Scot. p. 1025.*

AGARICUS *procerus* stipitatus pileo hemisphærico lacerato-squamoso rufescente cinereo, lamellis albis, stipite longo cylindrico acetabulo inserto. *Hudson Fl. Angl. ed. 2. p. 612.*

AGARICUS *procerus.* *Scopoli Fl. Carn. n. 1465.*

AMANITA petiolo procero, anulato, in acetabulum pilei immisso, pileo squamoso et maculato, lamellis albis. *Haller. Hist. n. 2371.*

AGARICUS; pileo papillari, amplissimo, in margine fornicato, lacero et filamentoso; petiolo anulato procero, inferius tumido, pilei acetabulo inserto. *Gleditsch. Fung. p. 114.*

FUNGUS pileolo lato, longissimo pediculo variegato. *C. B. Pin. 371. n. 24.*

FUNGI longissimo pediculo candicantes, sed maculati esculenti. *J. B. III. 826. Raii Syn. p. 3. n. 10. Schæff. Fung. t. 22, 23.*

STIPES solitarius, spithameus, et ultra, crassitie indicis, basi bulbosus, fistulosus, *fig. 3.* albidus, squamis fuscis plerumque notatus.

VOLVA ampla, persistens, lacera, bilamellosa, lamella inferiore membranacea, subfusca, superiore alba, spongiosa.

FILEUS palmaris et ultra, primo subglobosus, dein campanulatus, demum planus, squamis fuscis, floccidis, circa verticem crebrioribus, maculatus; vertex tumidus, coriaceus; caro crassitie lamellarum, alba, mollissima, spongiosa.

LAMELLÆ confertæ, fragiles, albidæ, basi in marginem acetabuli pilei insertæ, pulverem subtilissimum cinerascens spargentes. *fig. 1, 2.*

STALK single, six inches or more in height, the thickness of the forefinger, bulbous at bottom, hollow, *fig. 3.* whitish, and generally mottled with brown scales.

RUFFLE large, permanent, torn, composed of two lamellæ or coats, the lowermost membranous, and brownish, the uppermost white and spongy.

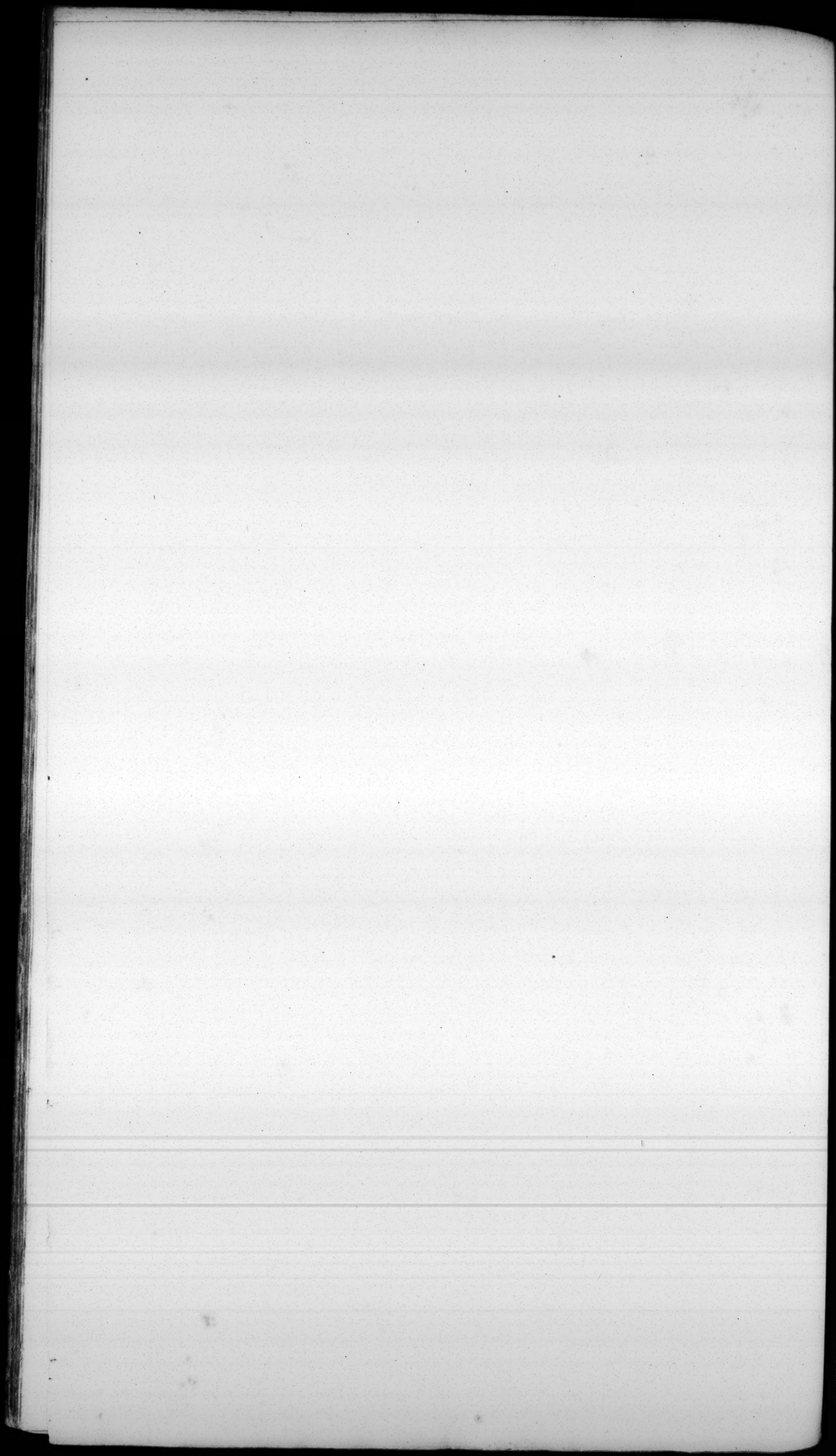
CAP three inches and more in diameter, at first roundish, then bell-shaped, and lastly flat, spotted with brown, flaky, scales; thickest round the crown; crown prominent and leathery, flesh the thickness of the gills, white, very soft and spongy.

GILLS numerous, brittle, whitish, inserted at their base into the edge of the cup of the cap, throwing out a very fine ash-coloured powder. *fig. 1, 2.*

This Mushroom, inferior to few in point of elegance, is frequently found in Woods, and dry hilly Pastures among Heath, Broom, &c. in the months of September and October; I have found it in the environs of *Hornsey Wood*, and *The Spaniard, Hampstead Heath*; in *Richmond Park*, and many other places.

It is a well-known Mushroom, and easily distinguished from all others by its tallness, its bulbous base, its large ruffle, its spongy cap, which is flaky, or scaly, not warty at top, and which, as Mr. LIGHTFOOT justly observes, separates it from the *verrucosus*, with which it has no small affinity.

I have seen it exposed to sale in Covent Garden market, for the true eatable one, but a Connoisseur will distinguish it by the sponginess of its flesh, which renders it in a great degree unfit for eating.







Agaricus glutinosus.



AGARICUS GLUTINOSUS. SLIMY MUSHROOM.

AGARICUS Lin. Gen. Pl. FUNGI.

Fungus horizontalis, subtus lamellosus.

Raii. Syn. Gen. 1. FUNGI.

AGARICUS *glutinosus* pileo hemisphærico stramineo viscido, lamellis horizontalibus, annulo obsoleto.

FUNGI pratenfes minores, externe viscidī, albi et lutei, pediculis brevibus. Raii. Syn. p. 7. 2 ?

STIPES plerumque solitarius, subinde multiplex, bipollicaris ad palmarem, crassitie pennæ coracis, filiformis, albidus, pene solidus, tubo minimo, glutinosus.

ANNULUS paulo infra pileum obsoletus.

PILEUS uncialis, ad biuncialem, stramineus, in adultis hemisphæricus, semper convexus, et glutine plus minusve obductus, pluviis madefactus magis fuscescit, et diaphanus evadit, unde striatus aliquando apparet.

LAMELLÆ plurimæ, simplices, e fusco purpurascens, nebulosæ, integris circiter 20, horizontalibus, fig. 1. tribus brevioribus interpositis, fig. 2. 3. Pulverem effundunt e fusco purpurascens.

Fig. 5. Fruetulum lamellæ vitro auctum, exhibens Capsulas feminiferas quaternas.

STALKS generally single, sometimes clustered, from two to four inches in height, the thickness of a crow quill, thread-shaped, whitish, almost solid, the tube being very small, glutinous.

RING a little below the cap, scarce perceptible.

CAP from one to two inches in breadth, of a straw colour; in the full grown ones hemispherical, always convex, and more or less glutinous, wet with rain it becomes browner and transparent, so that it sometimes appears as if striated.

GILLS numerous, single, of a brownish purple colour, clouded, whole ones about twenty, horizontal, fig. 1. three shorter ones placed betwixt them fig. 2. 3. they throw out a Powder of a brownish purple colour.

Fig. 5. a small piece of the gill magnified, in which are shewn the Capsules which contain the seeds placed four together.

Lithologia mihi cristas non eriget, says LINNÆUS in the preface to his mineralogy; he might with equal propriety have applied the same expressions to himself respecting the *Fungi*, as in the last edition of his *Systema vegetabilium* we are presented with no more than twenty-four species of *Agarici Stipitati*, or Mushrooms with stalks: MICHELI on the contrary has given us Six-hundred and thirty-four; RAY in the third edition of his *Synopsis* has fifty-seven species, fourteen of which are added by DILLENUS; GLEDITSCH who has written a particular treatise on the *Fungi*, reduces the *Agarici* to thirty-two species, but informs us that there are one hundred and twenty more, involved in much obscurity; SCOPOLI describes one hundred and fourteen, and HALLER one hundred and thirty four; Mr. HUDSON in the last edition of his *Flora Anglica* enumerates forty six, and Mr. LIGHTFOOT accurately describes twenty in his *Flora Scotica*; and yet amidst all these enumerations and descriptions, scarce any two of them are agreed about the same Fungus; of the hundred and fourteen described by SCOPOLI there are only eleven which have the names of LINNÆUS, the *procerus* of SCOPOLI is the *annulatus* of LIGHTFOOT, the *coriaceus* of LIGHTFOOT is the *pratenfis* of HUDSON, while the *coriaceus* and *pratenfis* of SCOPOLI differ from both theirs.

Amidst this confusion of Authors, arising partly from the intricacy of the subject, and partly from their inattention to specific characters, we shall be often obliged to be sparing in our synonyms, and occasionally find it necessary to introduce a new name as in the present instance.

Although the Fungus here figured is a very common one, we are not able with absolute certainty to say that it is either in RAY, LINNÆUS, SCOPOLI, LIGHTFOOT, or HUDSON, the name of *glutinosus* is therefore given it, as it always is more or less slimy, and which sliminess is not confined to the upper part of the cap, but extends to the stalk: this character joined to the roundness of the cap, and the horizontal appearance of the gills, which form a straight line from the edge of the Cap to the stalk, will always readily distinguish this Mushroom.

The Cap varies in size from two lines to two inches in diameter, and the stem from one to four or five in height, the usual colour of the cap is of a pale straw colour, sometimes inclined more to the yellow, and sometimes more to a dirty brown, especially when wet; it is gradual in its decay, not quickly dissolving as some do, nor drying up like others.

It most commonly grows singly, but sometimes springs up in clusters, especially on those spots where dung has been thrown.

Its place of growth is in exposed, and elevated pastures, especially such as are moist, it may indeed be found in moist meadows, and sometimes in great abundance, the particular places where I have been accustomed to find it plentifully, are on *Peckham-Rye*, and in the pastures about the *Oak of Honour Wood*, also in the pasture one ascends, before entering *Hornsey-Wood*, going from *Islington*.

About the latter end of October they are most plentiful, but may be found earlier as well as later.

There is nothing acrimonious or disagreeable in the taste of it, yet its appearance will not recommend it to the lovers of Mushrooms.



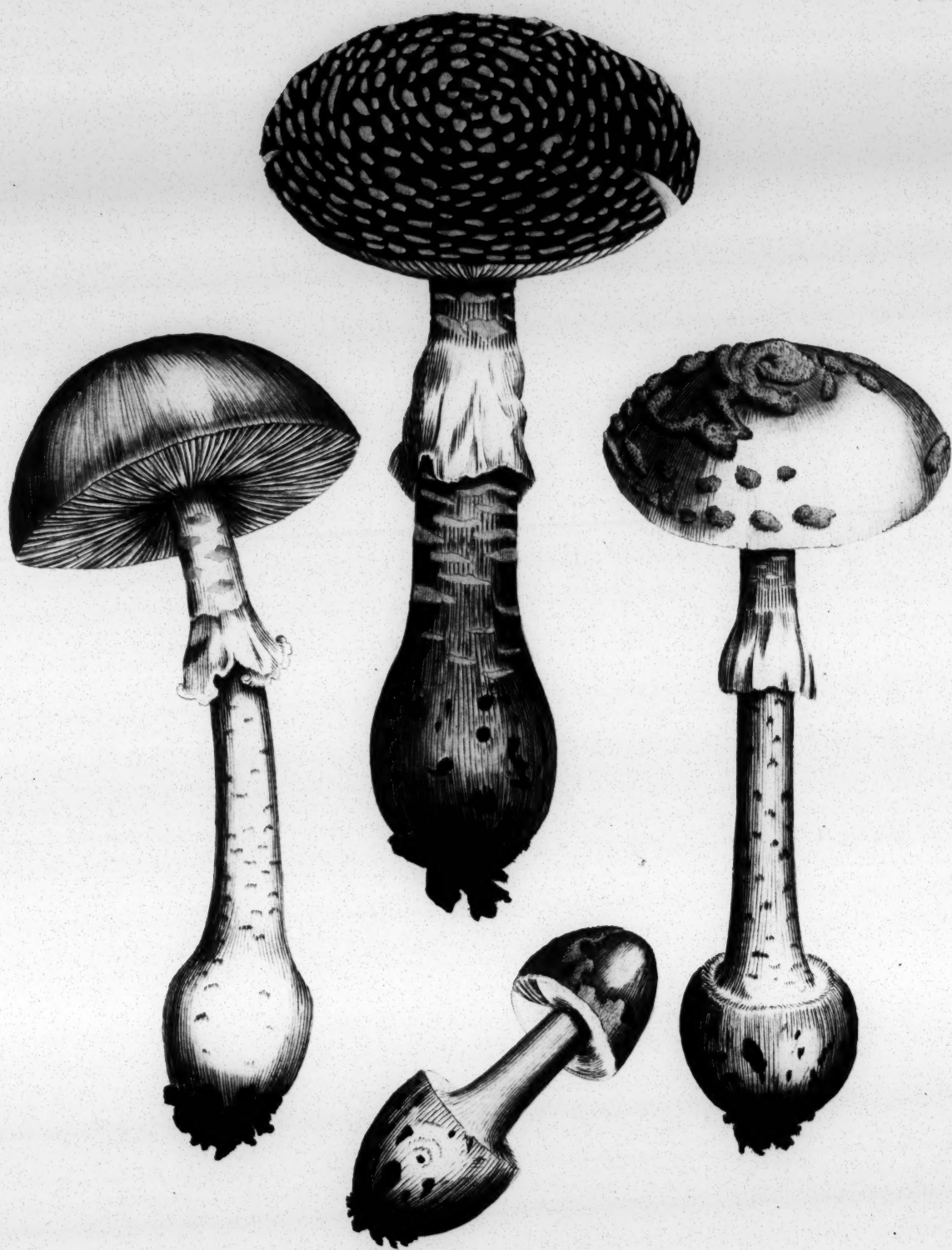


Fig. 1. del st. fruct.

Agaricus verrucosus.

AGARICUS VERRUCOSUS. WARTY MUSHROOM.

AGARICUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellosus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *verrucosus* stipitatus, stipite bulboso, annulato, annulo laxo, pendulo, pileo verrucoso, lamellis albis.

AGARICUS *muscarius* stipitatus, lamellis dimidiatis solitariis, stipite volvato: apice dilatato, basi ovato. *Lin. Syst. Veg. p. 820. Spec. Pl. 1640. Fl. S. 449.*

AGARICUS *verrucosus* caulescens, pileo convexo cinereo, verrucis lamellisque albis. *Hudson. Fl. Angl. p. 613. Lightfoot p. 1012.*

AMANITA petiolo procero fistuloso annulato, pileolo plano striato verrucoso sordido lamellis albis. *Haller Hist. n. 2397.*

AMANITA petiolo annulato, pileo sanguineo, lamellis albis. *Haller Hist. n. 2373.*

LEUCOMYCES gemmatus. *Batar. tab. 6. B.*

LEUCOMYCES speciosior. *Batarra tab. 6. A.*

AGARICUS *muscarius*. *Scopoli Fl. Carn. n. 1459.*

FUNGORUM perniciosorum. *Gen. 12. Spec. 4. Clus. p. 280. Schæffer. Icon. Fung. t. XX. LXXIV? XC. XCI. CCXLI. CCLVIII? CCLXI.*

Solitarie nascitur in sylvis frequens.

Frequent in woods growing singly.

STIPES palmaris et ultra, crassitie digiti minimi, seu intermedii, ad basin semper bulbosus, teres, ex albo-rubescens, et maculatus, non raro flavescens, annulatus.

STALK a hand's breadth or more in height, the thickness of the little or middle finger, always bulbous at its base, round, of a reddish white colour and spotted, not unfrequently yellowish, and furnished with a ring or ruffle.

ANNULUS magnus, persistens, pendulus, plerumque striatus, ex lamellis impressis.

RING or ruffle large, permanent, pendulous, for the most part striated.

PILEUS duas, tres, aut etiam quatuor uncias latus, primo subrotundus, dein hemisphericus, demum planus, ad marginem superne obsolete striatus, varii coloris, sæpius vero aut fordide ruber medio saturatius colorato, aut flavescens; plerumque verrucosus, interdum nudus, verrucis albidis.

CAP two, three, or even four inches broad, at first roundish, then hemispherical, lastly flat, on the upper side, faintly striated at the margin, various in its colour, but most commonly either of a dingy red, strongest in the middle, or yellowish, for the most part warty, sometimes bare, the warts whitish.

LAMELLÆ numerosæ, brevioribus interjectis, horizontalibus, primo albæ, demum fordide carneæ.

GILLS numerous, shorter ones intervening, horizontal, at first white, lastly of a dirty flesh colour.

Most modern authors consider the *Agaricus verrucosus* and *muscarius* as different species. Mr. LIGHTFOOT, suggests, that they may be only varieties differing in colour. Repeated examination has perfectly convinced us, that his conjecture is well founded; the *verrucosus* being with us by far the most common, we shall consider it as the species, and the *muscarius* as the variety: so singular and so beautiful is the variety, however, that we intend giving a separate plate of it.

Before we speak more particularly of these fungi, it will be proper to explain to some of our readers what is meant by a few terms made use of in describing this and three or four others, viz. *Volva*, *Annulus*, and *Velum*, parts which occur in some mushrooms, but not in others.

There are a few of these plants, which, on their first emerging from the earth, assume the appearance of an egg, and are enclosed in a kind of membranous shell or case; this case we call the *Volva*. If we cut the egg longitudinally down the middle, we may observe the inclosed fungus as yet unexpanded. Vid. *Schæffer Icon. Fung. tab. 244. fig. 1. 2. 3.* As the mushroom increases in size, it bursts open this *Volva*, and sometimes leaves it intirely behind, as in the *Phallus impudicus*; but more frequently the upper half of it is borne upwards on the *Pileus* or *Cap*, which not being sufficiently large to cover when the *Pileus* is expanded, it breaks in various directions, and appears in the form of a number of little knobs or warts irregularly scattered. Such then is the origin of the warts: as the membrane which forms them may sometimes be thinner than ordinary; or as it may be rubbed off as the mushroom pushes itself out of the ground; or destroyed by heavy rains, or other accidents; so we never find these warts alike either in number or shape in any two fungi, and frequently intirely wanting; but if no extraordinary accident happens, they will be found in every well-formed fungus of this species. We may remark, that the *Volva*, which we have thus described, is not the *Volva* of LINNÆUS; his *Volva* is our *Annulus*.

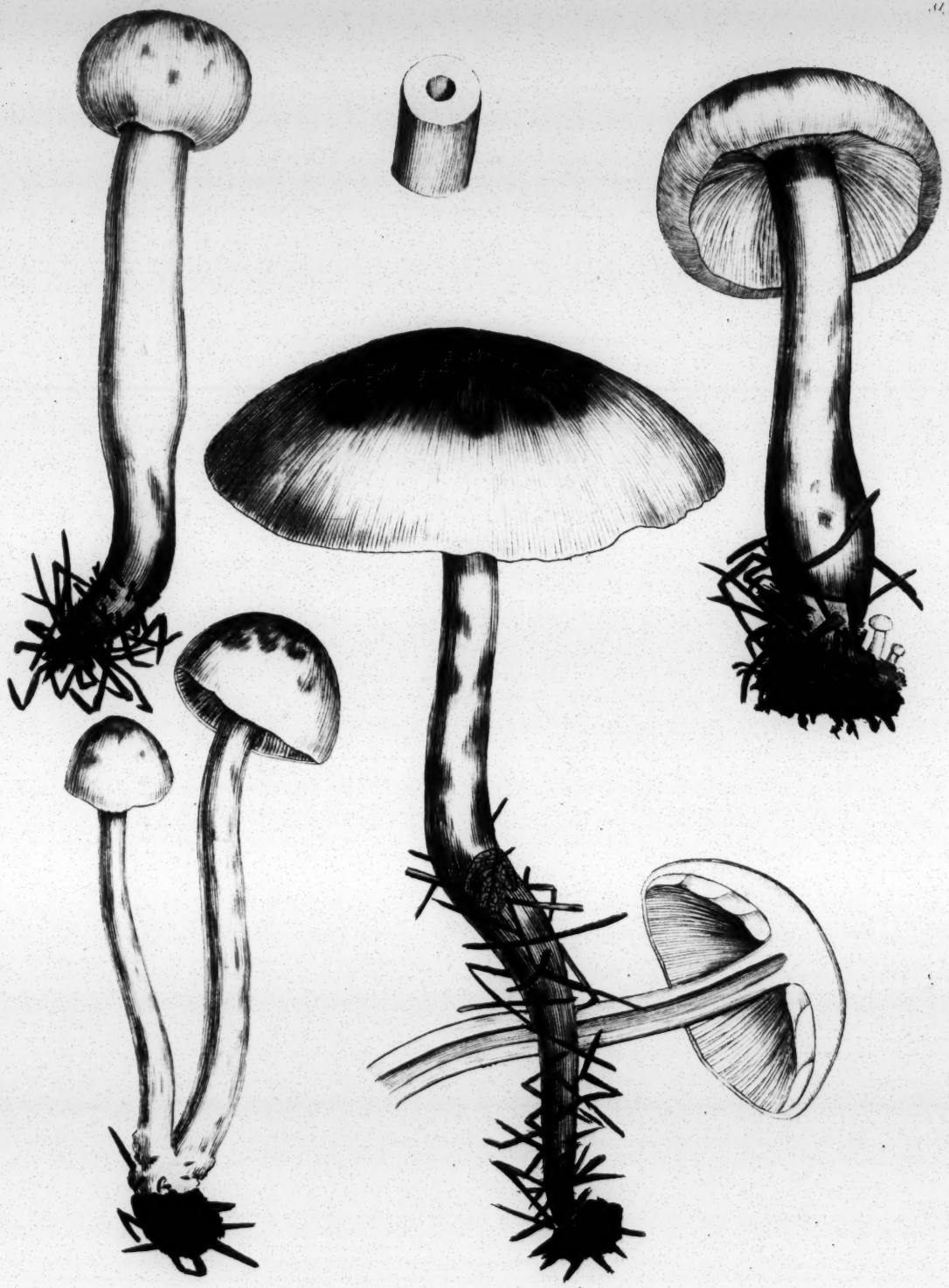
In many of the fungi the gills are covered and protected in their infancy by a membrane, more or less thick, totally independent of the Volva, attached to the edge of the Pileus one way, and round the stalk the other. While the membrane is visibly thus connected, which is just as the Pileus is beginning to expand, we call it the Velum or Veil, though generally the term is applied to those membranes which are remarkably thin, almost like a cobweb, and which, when the Pileus is expanded, leave little or no traces of their existence behind, as in the *Agaricus fascicularis*. The greatest part of this membrane in separating is generally left either with the Pileus or Stipes: sometimes what it leaves remains with the Pileus, and is only sufficient to give the edge a ragged or toothed appearance; but more commonly, where it is in any degree substantial, it leaves the Pileus, and attaches itself to the Stipes, where it either projects horizontally, as in the *æruginosus*; or becomes pendulous, as in the present species. This part, thus attached to the stalk, we call the *Annulus, Ring or Ruffle*.

There are three characters which distinguish the present species of mushroom, viz. a cap, more or less covered with warts; a stalk, bulbous at its base, and furnished above with a pendulous striated ruffle. These will be found in every perfect fungus of this sort. Colour is not to be depended on; the cap being sometimes, as in the variety *muscarius*, of the most beautiful crimson, and very frequently, especially in Charlton Wood, of a cream colour; but its most usual tint is a dingy red, inclining to brown. The Gills are always white at first, and become of a dingy red at last. The stalk in those which have a reddish Pileus is usually mottled with red and white. The whole fungus, but particularly the base, is apt to be soon destroyed by the larvæ of various insects, and among others by those of an undescribed species of *Tipula*, somewhat less than the *Tipula plumosa*, and distinguished by having its legs unusually hairy. It was by accident we discovered the attachment of this insect. Betwixt the Velum and the Gills, previous to the separation of the former from the edge of the Pileus, there is a considerable cavity. In this cavity we found, in a young fungus of this species, at least twenty of these *Tipulæ*, which had introduced themselves through an accidental aperture in the Velum.

The *Agaricus verrucosus* is very common in all our woods about the middle of September. The *muscarius* is plentiful only in particular spots.

We had the curiosity to taste this shewy fungus. Chewed, it was not unpleasant in the mouth; swallowed, it quickly produced a disagreeable burning kind of sensation in the throat, which extended to the stomach, though the quantity swallowed was but small; and this sensation continued a considerable time. That I might not be mistaken in my idea of this sensation, I prevailed on my draughtsman and gardener to chew and swallow some of it, who complained of its producing a similar effect. Hence we may infer, that this species, taken in any quantity, is likely to prove highly poisonous. This effect accords with the account given of it by different authors. SCOPOLI makes mention of some persons being poisoned by it, mistaking it for the *Agaricus caesareus*. HALLER relates, that six persons of Lithuania perished at one time by eating it; and that in Kamtschatka it had driven others raving mad; that there, three or four of them are eaten without much effect, but that ten intoxicate: nevertheless, the Russians eat it with their food; and the inhabitants of Kamtschatka prepare a liquor from this fungus, and a species of *Epilobium*, which, taken in small quantities, inebriates, and produces a trembling of the nerves, making some joyous, others melancholy. The very urine of those who drink it is found to intoxicate. LINNÆUS says, that flies are killed, SCOPOLI only stupified, by tasting an infusion of the *muscarius* in milk, whence its name, and that it is also inimical to bugs; but we have certainly much better remedies for these troublesome insects.





Agaricus carnosus.

del. G. S. del. et. fecit.

AGARICUS CARNOSUS. FLESHY MUSHROOM.

AGARICUS *carnosus* pileo convexo albo, medio rufescente, lamellis confertis albis carne pilei duplo angustioribus.

In sylvis acerosis habitat nobiscum rarior, autumnovigens.

Found with us in pine woods in the autumn, scarce.

Solitarius plerumque invenitur, subinde cespitosus.

Is generally found growing singly, sometimes in clusters.

STIPES triuncialis et ultra, magnitudine fere digiti minimi, crassius, nudus, fistulosus, carne diametro tubi, firmus, albidus, sæpe rubro maculatus, parum striatus, basi intra folia pini emortua descendente.

STALK three inches high and upwards, almost the thickness of the little finger, clumsy, naked, hollow, the flesh the diameter of the tube, firm, whitish, often spotted with red, faintly striated, the base descending amongst the dead pine leaves.

PILEUS uncialis, ad triunciatem, albidus, medio rufescens, et hinc inde maculis concoloribus adpersus, lævis, carnosus, carne multo, solido, albo, primo convexus, dein planiusculus, nec acris, nec lactescens.

CAP from one to three inches in diameter, reddish in the middle, and here and there blotched with spots of the same colour, smooth, fleshy, the flesh abundant, solid, white, first convex, finally almost flat, neither acrid nor milky.

LAMELLÆ numerosissimæ, albidæ, angustæ, sesquilineam latæ, brevioribus interjectis, demum rufescentes.

GILLS exceedingly numerous, whitish, narrow, a line and a half broad, shorter ones intervening, finally of a reddish brown colour.

We can find no certain traces of this fungus either in the figures or descriptions of authors; at least in those of our own country. This may perhaps arise, from its being a local, or at least not a common mushroom.

We have hitherto found it only in Lord Mansfield's small pine wood, Hampstead, and there in no great plenty; but having observed them in the same spot, and assuming the same character for several successive years, we are perfectly satisfied of its being a very distinct species. This autumn, Sept. 12, we found about twenty of them.

It is in some degree characterised by the singularity of its colour. We have few fungi that have a white Pileus, with a reddish disk, and that, together with the stalk, irregularly blotched with the same colour; but it is more distinguished by the quantity of flesh both in the Pileus and Stipes. It is this which gives it an unusual degree of firmness to the touch, and has induced us to bestow on it the name of *carnosus*.

Chewed, it discovers no unpleasant taste; but notwithstanding this circumstance, and notwithstanding its tempting appearance, we must, till we have further proofs of its innocence, place it at least among the suspicious fungi.

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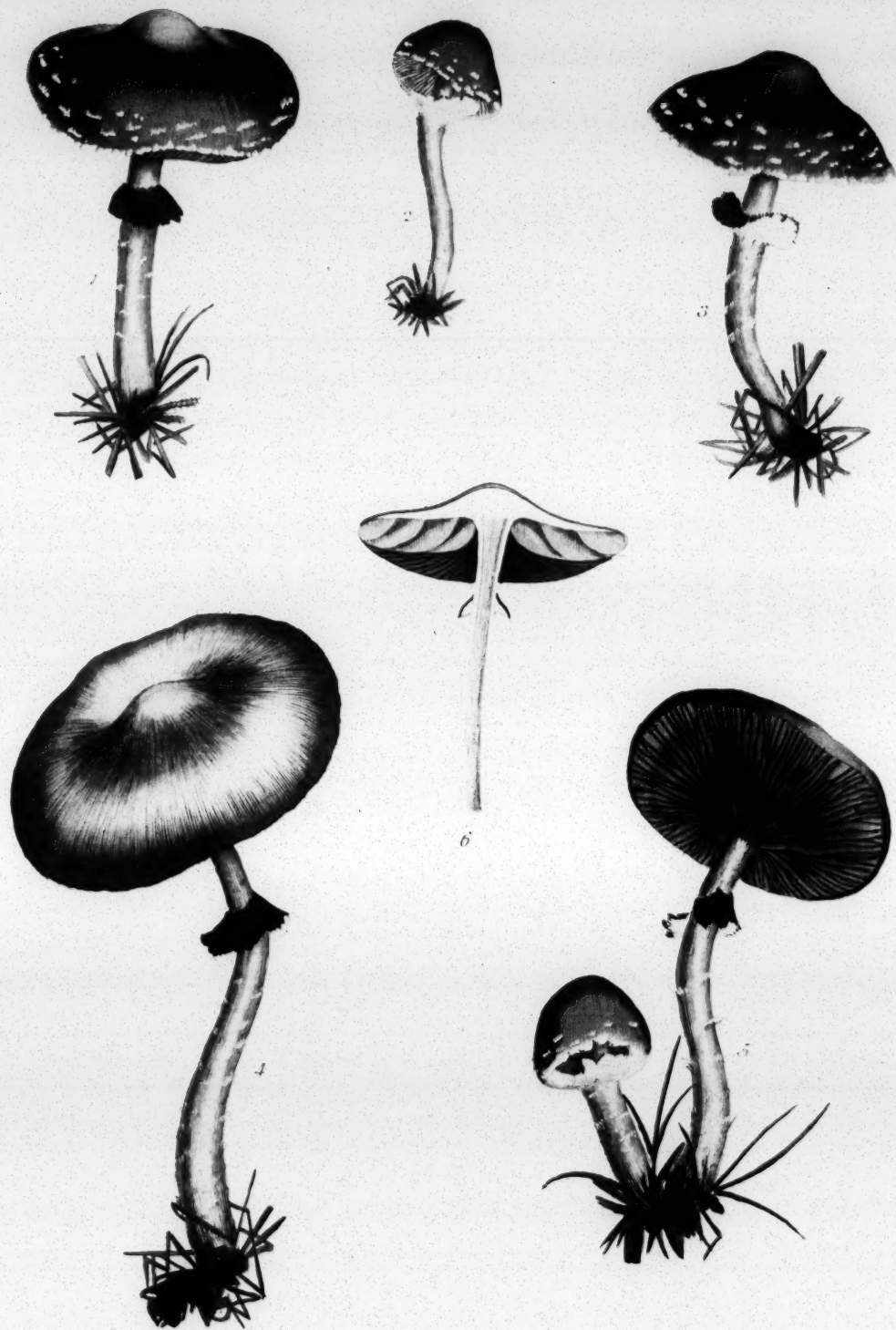
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Lycium aruginosus.

AGARICUS ÆRUGINOSUS. VERDIGRIS MUSHROOM.

AGARICUS *Linnaei Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellofus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *æruginosus* stipitatus, annulatus, annulo superne nigricante; pileo convexo, cæruleo, viridi, viscoso, lamellis purpureo-fuscis.

AGARICUS *viridis* stipitatus pileo convexo viridi, lamellis albidis, stipite longo virescente. *Hudson Fl. Angl. p. 614.*

AMANITA annulatus, pileo convexo cæruleo viridi, lamellis roseo cæruleis. *Haller. hist. n. 2444.*

FUNGUS medius pileo mucro æruginei coloris obducto. *Raii Syn. ed. 3. p. 6. Deering Catal. Stirp. p. 80.*

FUNGUS pileolo cucullato, viscido, intense viridi, et quasi vernigine oblito, inferne lamellis et pediculo albis. *Micheli p. 152.*

AGARICUS. *Schæf. Icon. tab. 1.*

Solitarius, et cæspitosus in sylvis et pascuis nascitur, rarior nobiscum.

STIPES biuncialis, seu triuncialis; ex albo virescens, fistulosus, annulatus, infra annulum floccosus, teres, subfragilis, supra annulum lævis, substriatus, ad basin lanuginosus, raro strictus.

ANNULUS persistens, tenuis, superne striatus, e fusco nigricans, inferne virescens.

PILEUS unciam aut duas latus, primo convexo-conicus, ex cæruleo-viridis, lubricus et subviscidus, lævis, prope marginem et in margine ipsa floccis albidis adpersus, demum planus aut parum concavus, e fusco-lutescens, cuticula facile separanda.

LAMELLÆ numerosæ, brevioribus interjectis, e fusco-purpurascens, parum nebulosæ, demum nigricantes.

Grows singly, and in clusters, in woods and pastures, scarce with us.

STALK two or three inches high, of a greenish white colour, hollow, ruffled, below the ruffle shaggy, round, somewhat brittle, above the ruffle smooth, and slightly striated, at the base woolly, seldom perfectly straight.

RUFFLE permanent, slender, on the upper side striated and of a blackish purple colour, on the under side greenish.

CAP from one to two inches broad, at first somewhat roundish, yet conical, the colour of verdigris, slippery and somewhat viscid, smooth, except near the edge, and on the edge itself, where it is covered with a whitish, shaggy substance, finally flat, or a little concave, of a yellowish brown colour, the cuticle easily peeled off.

GILLS numerous, with shorter ones intervening, of a brownish purple colour, a little clouded, finally blackish.

Amidst that variety of colour observable in the Fungi, there are few in which the green predominates so much as in the present species: hence it affords an obvious character. But, alas! in these plants of a day, we must not lay too much stress on colour: *nimum ne crede colori* cannot be better applied to any subject. It is, however, chiefly in its decline that it loses that verdigris green, which on its first appearance renders it so conspicuous, the cap being often found of a pale yellowish brown colour, and sometimes variegated with green, yellow, and black. The viscosity of the cap is as constant a character as its green colour, and this also is most observable in the young ones, especially in the morning, or in showery weather; for in a very dry atmosphere the most viscid Fungi lose their viscosity. Next to the greenness and viscosity of the cap, we may remark, that the edge of it, where it breaks from the annulus, is very apt to be ragged: we have also found, that the outer skin of the cap has an unusual tendency to separate from the flesh. The gills, from the very beginning, are of a purplish brown colour; and the annulus or ruffle, while connected to the edge of the pileus, receives from the gills a fine powder, which communicates to the upper part of it a dark brown tint; this, contrasted with the light colour on the under side, forms a very conspicuous character. The stalk below the ruffle is usually of a blueish green colour, and shaggy.

This Fungus is not very common with us. Several of them appeared this autumn, in a grass plat in my garden; and I have observed twenty or thirty in Earl Mansfield's little wood near the Spaniard, Hampstead-Heath, where, if the season be not remarkably unfavourable, they are with certainty to be found about the middle of September.

It has no acrid or disagreeable taste; nevertheless, we do not venture to pronounce it an eatable one.

RAY's description, though a short one, and SCHÆFFER's figure, accord exactly with our plant. HALLER quotes SCHÆFFER: we therefore conclude from that circumstance, as well as from the consonancy of his description, that our plant is the same as his; and MICHELI, who is also quoted by HALLER, gives a description so exactly corresponding with RAY's, that we have no doubt but his also is the same as ours. Whether our plant be the *viridis* of Mr. HUDSON, we have our doubts; for he quotes authors who describe two different Fungi; at the same time that he quotes SCHÆFFER, *tab. 1.* (our plant), and HALLER, *n. 2444.* (our plant), he refers to MICHELI, RAY, and SCOPOLI, who describe another Fungus. SCOPOLI gives to his the name of *virens*; part of his DIAGN. is *Stipes nudus*. RAY quotes the *Fungus magnus viridis* of STERBECK, and the *sylvarum asper esculentus, seu ex albo virescens* of J. BAUHINE: and MICHELI thus describes his, *Fungus esculentus, pileo pulvinato, viridi, inferne cum pediculo albo*. This description is quoted by SCOPOLI for his *virens*. Thus it would appear that these two are different species; we must leave it to Mr. HUDSON to reconcile these contradictory synonyma.

It could be wished, that every Fungus was as distinct in its characters as the present, we should then soon see order spring from that chaos in which this tribe of plants has been considered as so long involved; not but that chaos which LINNÆUS and other Botanists have so much lamented, is rather to be considered as a creature of their own imagination than as the child of nature. The more we look into these variable plants, the more we are convinced that our ignorance of them depends on our inattention and want of observation. Bestow the same pains on them as on other plants, observe them in all their states, in all their varieties of situation, and we shall find that each of them has some peculiarity of character. The discovery of this character is what we should aim at; but this will not be found in the closet. We may read over, with the most sedulous attention, BATTARRA, MICHELI, GLEDITSCH, and HALLER, or turn over the multitudinous plates of SCHÆFFER to little purpose: to know the Fungi well we must watch them daily and yearly; in short *we must live with them*.

Agaricus rugosus, V. arboris, Mull. Arg.

Agaricus rugosus, V. arboris, Mull. Arg.

Agaricus rugosus, V. arboris, Mull. Arg.

Agaricus rugosus, V. arboris, Mull. Arg.

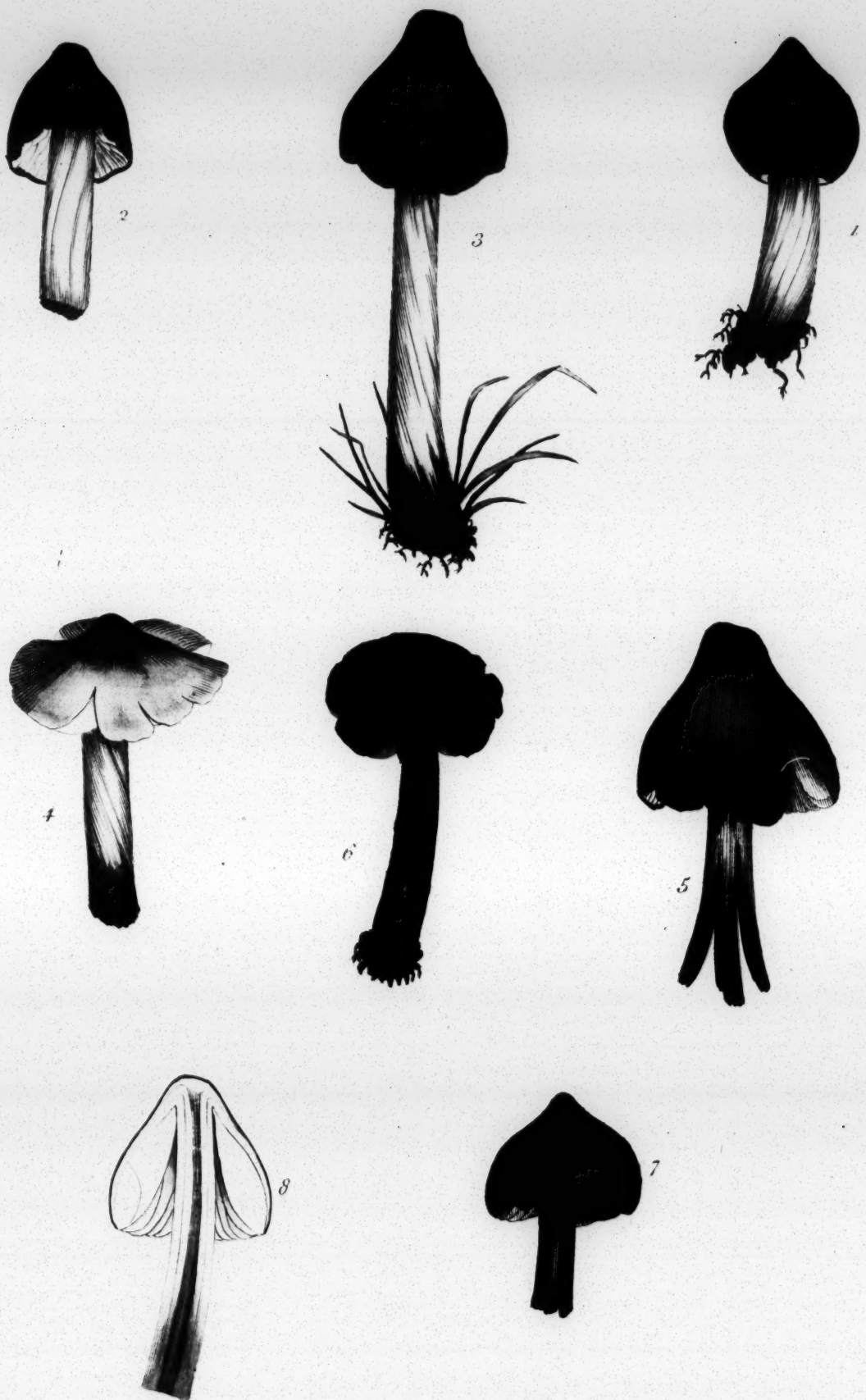
Agaricus rugosus, V. arboris, Mull. Arg.

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Agaricus rugosus, V. arboris, Mull. Arg.





Agaricus aurantius.

AGARICUS AURANTIUS. ORANGE MUSHROOM.

AGARICUS *Linnaei Gen. Pl* CRYPTOGRAMIA FUNGI.

Fungus horizontalis subtus lamellosus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *aurantius* pileo conico viscido aurantio, lamellis luteis, stipite nudo. *Lightfoot. Flor. Scot. p. 1025.*

AMANITA glutinosus, flavus, pileo umbonato. *Haller. hist. n. 2420.*

FUNGUS parvus, lubricus, aureus, lamellis raris, amplioribus, pediculo crassiore. *Mich. p. 147.*

FUNGUS aurantii coloris capitulo in conum abeunte. *Vaillant Bot. Par. p. 67.*

FUNGUS pratensis minor, externe viscidus, striis subtus fulvis seu croceis. *Raii Syn. p. 8. n. 38.?*

In pascuis elatioribus solitarius plerumque invenitur, sat copiose nobiscum.

Found plentifully enough with us in elevated pastures, and for the most part singly.

STIPES uncialis, ad triuncialem, nudus, fistulosus, fragilis, et admodum fissilis, crassiusculus, subtiliter striatus, laevis, saepe tortuosus, plerumque croceus.

STALK from one to three inches high, naked, hollow, brittle, and much disposed to split, thickish, finely striated, smooth, often twisted, and for the most part saffron-coloured.

PILEUS uncialis, aut biuncialis, raro triuncialis, utplurimum conicus, praesertim in junioribus, lubricus, et subviscidus, primo coccineus, dein croceus, seu aurantius, demum niger; nonnulli formam conicam retinent usque ad dissolutionem, alii plani fiunt vertice tumescente.

STALK one or two, seldom three inches broad, generally conical, especially when young, slippery, and somewhat clammy, at first of a bright scarlet colour, then saffron or orange-coloured, and finally black; some preserve their conical form even in decay, others become flat with a prominent crown.

LAMELLAE primo albae, dein subcrocae, si contundantur statim nigrescentes.

GILLS first whitish, afterwards somewhat saffron-coloured, on being bruised quickly becoming black.

As this Fungus is so distinguishable for its colours, so distinct in its specific characters, and withal so common, it is matter of admiration that we do not find more notice taken of it by Authors. Mr. LIGHTFOOT in his *Flora Scotica* has given an accurate description of it, which cannot fail of making it known: he quotes SCHAEFFER's figure, which represents our plant, and adopts his name of *aurantius*. Mr. HUDSON does not mention it; and we are not certain whether the plant we refer to in RAY be ours or not. As well as Mr. LIGHTFOOT, we had our doubts whether it was the *fragilis* of LINNAEUS; but considering his description, as well as that of VAILLANT, who gives a figure to which LINNAEUS refers, we are certain it must be a different plant. If the *fragilis* of Mr. HUDSON be the *fragilis* of LINNAEUS, it is a very different plant from ours indeed. *Vid. SCHAEFF. Ic. tab. 230.* to which he refers.

This Fungus is by no means uncommon in elevated pastures, particularly where Eye-bright grows. It is usually dwarfish on heaths; but where the grass is not close fed, it is found with a stalk three inches high. The brilliancy of its colour soon strikes the eye. We may observe, that this colour is most vivid, or most inclined to red in the young ones. As it grows old, it becomes yellower, and quickly changes quite black. Indeed it has an extraordinary tendency to turn black, not only from age, but from the slightest bruise. The stalk is also brittle, and very apt to split.

It is found in perfection about the middle of September.

It does not possess any particular acrimony; but is not numbered with such as may be eaten with safety.

ACADICUS AURANTIVUS ORANGE MUSEUM





Agaricus Velutipes.

AGARICUS VELUTIPES. VELVET-STALK'D MUSHROOM

AGARICUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellosus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *velutipes* fasciculatus, pileo planiusculo fulvo, stipite nudo, tenerrime villosus, fuliginosus.

FUNGUS glutinosus colore aurantio. *Vaillant Bot. Paris. p. 72. 8. t. 12. fig. 8, 9.*

FUNGUS fasciculatus, pileo orbiculari lutescente, pediculo fusco, tenerrime villosus, lamellis ex flavo candicantibus. *Raii Syn. ed. 3. p. 9.*

Ex ligno putrescente, seu arboribus cæsis, concervatim plerumque nascitur hic fungus.

VOLVA ad radicem nulla.

STIPES in plantâ mediæ magnitudinis longitudine indicem, crassitie pennam anserinam æquat, teres, haud infrequenter compressus, fistulosus, tenerrime villosus, seu velutinus, inferne præsertim in vetustis e rufo-nigricans, fuligine quasi infectus, carneâ citrinâ, in tenuissima filâ sericea partibili.

ANNULUS nullus.

PILEUS uncialis ad triuncialem, modice convexus, sæpe difformis, fulvus, glutinosus; LAMELLÆ plurimæ, inequales, ex albido-lutescentes, in majoribus et senescentibus fungis crassæ, coriaceæ, luteæ, ad marginem pilei undulatæ, longioribus basi auriculatis, omnibus venosis; POLLEN cinereum.

This Fungus usually grows in clusters, out of decayed wood or felled trees.

SHEATH or egg at the root wanting.

STALK in plants of a middle size about the length of the forefinger, and thickness of a goose-quill, round, not unfrequently flat, hollow, velvety, on the lower part, especially in the old ones, of a reddish black colour, as if tinged with foot, the flesh citron coloured, and separable into silk-like threads.

RING, or ruffle, wanting.

CAP from one to three inches in diameter, moderately convex, often shapeless, of an orange or tawny colour, slimy; GILLS numerous, unequal, of a whitish yellow colour, in the larger and older fungi thick, leathery, yellow, waved towards the edge of the cap, the longer ones ear'd at the base, and all of them veiny; POLLEN, or seed, ash-coloured.

Many of the fungi, like the more perfect plants, make their appearance only at a certain period of the year; others are continually springing up and producing their fructifications, almost regardless of particular seasons, of the latter kind is the fungus here figured, at least it may be found from September to January in the greatest plenty.

It usually grows out of dead, or decaying wood, especially willow and elm, and almost always in clusters of different sizes, according to particular situations; at the bottoms of old willow-trees I have often seen fifty or more in a cluster, with the caps of some of the largest almost as broad as the palm of one's hand, while on small rotten sticks the cluster has consisted of not more than three or four, with caps not more than half an inch in diameter, but however it may vary in regard to size, &c. it luckily has a character which always readily distinguishes it, and this is its velvety and footy stalk, most conspicuous in those which are advanced.

RAY's synonym and description correspond pretty accurately with our fungus; Mr. HUDSON appears to have overlooked or confounded it with some other species; VAILLANT has given a good figure, and accurate description of it, in his most elegant work the *Botanicon Parisiense*.

To the taste this mushroom is rather agreeable, and devoid of all acrimony, perhaps it may be eaten with safety, it is not however of the kind recommended by HORACE,

————— *pratensis optima fungis*
Natura est: aliis male creditur.





Agaricus floccosus.

AGARICUS FLOCCOSUS. SHAGGY MUSHROOM.

AGARICUS *Lin. Gen. Pl. FUNGI.*

Fungus horizontalis, subtus lamellosus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *floccosus* stipitatus fasciculofus, pileo stipiteque piloso-squamofus, e flavo fuscis.

PICROMYCES tunicatus. *Batarr. p. 47. t. 8. H.*

AGARICUS floccosus. *Schæffer. Icon. Fung. t. 61.*

Habitat ad radices arborum, plerumque cespitosus.

STIPES palmaris et ultra, crassitie digiti minimi seu major, subcylindraceus, firmus, carnosus, vix fistulosus, interne albus, supra annulum nudus, infra filamentosus, pileo concolor.

ANNULUS parvus, paulo infra pileum positus.

VELUM araneosum, fugacissimum.

PILEUS: *Pilei* diameter sesquiuncialis ad palmarem, effavo-fuscus, convexus, in centro nonnunquam fastigiatus, piloso-squamofus. *Lamellæ* plurimæ, confertæ, inæquales, ex albo lutescentes.

Found at the roots of trees, and generally in clusters.

STALK four inches or more in height, the thickness of the little finger or larger, somewhat cylindrical, firm, fleshy, scarcely hollow, white within, above the ring naked, below shaggy, of the same colour as the cap.

RING small, placed a little beneath the cap.

VEIL cob-webby and very fugacious.

CAP: from an inch and a half to four inches in diameter, of a yellow-brown colour, convex, sometimes rising to a point in the middle, shaggy. *Gills* numerous, close, irregular, of a yellowish-white colour.

It doth not appear, that this Mushroom is described either by Mr. RAY or Mr. HUDSON. It approaches very near to the *squamofus* of the latter, and of which Baron HALLER seems disposed to consider it as a variety; to us it appears to be a species perfectly distinct.

BATARRA gives an indifferent figure of it; SCHÆFFER an exceeding good one, very expressive of the plant we intend: the specimens from whence his drawings were made seem to have been smaller than ours, and some of them more pointed, which they sometimes are. Those represented on our plate were found about the middle of *October*, growing at the bottom of a pear-tree in the garden of Mr. *John Chorley*, at *South Lambeth*, where they come up regularly every year. I have also frequently found this species in the *Oak of Honour Wood* near *Peckham*. So far as I have remarked, it always grows out of wood, in which respect it differs from the *finetarius*, which also has a ragged head, but grows out of earth, and has a much longer cap.

When young this Fungus is principally distinguished by the roughness of its cap, which appears almost prickly. Its colour varies from a dingy to a more lively brown.

It is not of the catable kind; nor do we know any instance of it proving poisonous: the maggots of flies devour it.





Boletus lucidus.

BOLETUS LUCIDUS. LACQUERED BOLETUS.

BOLETUS. *Lin. Gen. Pl. CRYPTOGRAMIA FUNGI. Fungus horizontalis subtus porosus.*
Raii Syn. Gen. 1. FUNGI.

BOLETUS *lucidus*, pileo coriaceo superne castaneo lucido, fulcis circularibus notato, inferne albo; poris minutissimis.

BOLETUS *rugosus*. *Jacquin. Fl. Austr. t. 169.*

FUNGUS coriaceus, pileolo latissimo atrorubente, pediculo brevissimo. *Raii Syn. ed. 3. p. 11. ?*

FUNGUS speciosus putridis arborum truncis et stipitibus presertim coryli innascitur, totus lignoso-coriaceus et persistens.

STIPES durus, inæqualis, castaneus, vernice veluti obductus.

PILEUS plerumque subdimidiatus, nonnunquam orbiculatus, planus, superne castaneus, nitidissimus, fulcis circularibus concentricis notatus, rugosus, inferne dum recens albissimus; poris minutissimis.

FUNGI duo connati, in tabula proponuntur, hinc atque illinc spectati, tum fungi pars inferior lente aucta ut pori magis luculenter appareant.

This handsome Fungus grows out of the trunks of decayed trees, particularly the stumps of the hazel, and is throughout of a leathery or somewhat woody substance, and permanent. STALK hard, uneven, of a chestnut colour, shining as if varnished.

CAP for the most part forming half a circle, sometimes a whole one, flat, on the upper side of a chestnut colour, and highly polished, marked with circular concentric grooves, the edge thick and wrinkled; on the under side, when fresh, very white, the pores exceedingly small.

Two Fungi growing together, are represented on the plate in two different views; also part of the under side magnified, to shew the pores more plainly.

In the month of November, 1780, I fortunately found the fine specimen of this Boletus, exhibited on the plate, in the Wood adjoining the Oak of Honour, near Peckham; on first discovering it, the top of the Pileus and stalk were of so bright a colour, and so beautifully polished, that I scarcely knew whether I had found a natural or an artificial production, a view of its under side, however, soon convinced me it was natural; it grew out of a rotten hazel stump.

One principal character of this Fungus, is its polished or rather lacquered surface, for it has all the appearance of having been varnished; this I believe it possesses in all its situations; and on this account I have given it a name different from *Jacquin*, who has an excellent figure of it under the title of *rugosus*, in his *Fl. Austriaca*. The other characters which seem to be constant, are the depressed circles on the upper side of the Pileus, its wrinkled, thick, and somewhat inverted edge, which is very apt to break out on the under side of the Pileus, as represented on the plate, but omitted by *Jacquin*; the unusual whiteness of the pileus on its under side and the extreme fineness of its pores, which may be overlooked; it appears to be inconstant in the shape of its pileus (which is sometimes *orbiculatus*, as is shewn on the plate in a smaller Fungus of the preceding year, and sometimes *dimidiatus*); and in its stalk, which is sometimes wanting, as I discovered from a specimen growing out of the bottom of an elm tree near Hyde Park.

The stalk of the specimen figured, which I preserve, has not shrunk at all, the pileus is about one third less, but retains its form and much of its beauty.

There was some reason to suspect this Boletus of being the *perennis* of LINNÆUS, but the description given of that plant in his *Flora Lapponica* removed every doubt, and convinced me he had not described it.





Hydnum auriscalpium.

HYDNUM AURISCALPIUM. FIR HYDNUM.

HYDNUM *Lin. Gen. Pl. CRYPTOGRAMIA FUNGI.*

Fungus horizontalis subtus echinatus.

Raii. Syn. Gen. 1. FUNGI.

HYDNUM *auriscalpium* stipitatum, pileo dimidiato. *Lin. Syst. Vegetab. p. 822. Spec. Plant. p. 1648. Fl. Suecic. 1100. Lapon 524.*

ECHINUS petiolo gracili laterali, pileolo plano obscuro. *Haller Hist. n. 2321.*

ERINACEUS parvus hirsutus exfulvo fuscus, pileo femiorbiculari, pediculo tenuiore. *Mich. Gen. 132. t. 72. f. 8.*

FUNGUS erinaceus parvus in conis abietis nascens. *Buxb. Cent. 1. t. 57. f. 1.*

FUNGUS erinaceus parvus pediculo longiore auriscalpium referens buxei coloris. *Buxb. ball. 129. t. 829.*

ERINACEUS minimus auriscalpium referens. *Cels. Ups. 20.*

FUNGUS erinaceus esculentus parvus, pediculo longiore, auriscalpium referens, buxei coloris, in strobilis pini eveniens. *Kram. tent. 146.*

Hudson. Fl. Angl. ed. 2. p. 628.

Lightfoot Fl. Scot.

Roses Elem. of Bot. app. t. 3.

Schaeffer. Fung. tab. 143.

Ex strobilis feu ramulis emortuis pini nascitur hic Fungus.

STIPES pollicaris feu bipollicaris, inferne incrassatus, sublanuginosus, superne ad apicem sensim attenuatus, pilis numerosis brevibus, rigidulis, horizontalibus scabriusculis.

PILEUS magnitudine unguis indicis, plerumque dimidiatus, rotundato-reniformis, horizontalis, superne planiusculus, fasciis luteis et fuscis in orbem dispositis notatus, hirsutus, demum nigricans, inferne canescens, echinatus, *fig. 1.* Echini plurimi, conferti, acuminati, simplices. *fig. 2.*

From the decayed cones or small branches of the fir springs this Fungus.

STALK from one to three inches in height, thicken'd at bottom and somewhat wooly, from thence to the top gradually tapering and beset with numerous, short, horizontal, and somewhat rigid hairs, which give it a manifest roughness.

HEAD or cap the size of the forefinger nail, in general halved, of roundish kidney-shape, horizontal, on the upper side flattish, marked with yellow and brown stripes circularly disposed, hirsute, finally becoming black, underneath of a greyish colour, and prickly, *fig. 1.* Prickles numerous growing thickly together, simple, and running out to a point. *fig. 2.*

SOME of the more antient Botanists have given to this species of *Hydnum* the name of *auriscalpium* or ear-picker, from its resemblance to the instrument used for that purpose, but it should be observed that it is only when young or small that it bears this resemblance.

Its habitat is on the half decayed branches, and cones of the Fir Tree, especially the latter, most probably it is not attached to any particular species, the Cones on which I found it were of the *Pinus sylvestris*.

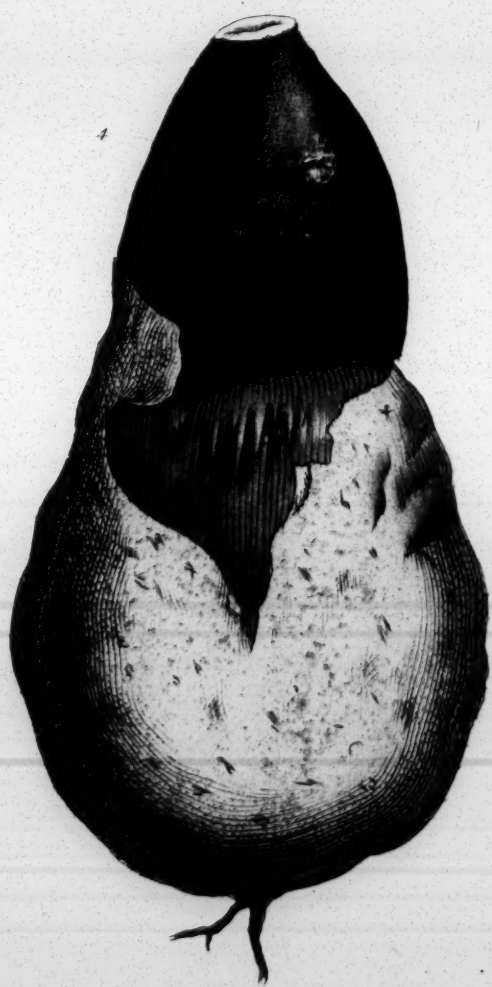
In the time of Mr. RAY, it was not known to be a native of Great Britain, of late years it has been found by several inquisitive Botanists in various parts of the Kingdom, as in *Scotland* by Mr. LIGHTFOOT, near *Norwich* by Mr. ROSE, and in a small pine wood opposite to, and by the road only separated from Lord MANSFIELD'S House near *Hampstead* by Mr. DIXON, and from which wood the specimens here represented were taken.

The fifth of October 1780, I found a great number of them in the said wood in the greatest perfection, they grew in the moist part of the wood out of the cones buried under the dead leaves.

In its use it does not appear to be very important, at least immediately to us, KRAMER applies to it the epithet of *esculentus*, but of all the Fungi this is the least proper for eating, as it is not only small in quantity but biting to the taste, and tough as leather.

To the Student it affords a very good example of the Genus *Hydnum*.





Phallus impudicus.

PHALLUS IMPUDICUS. STINKING MORELL.

PHALLUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus supra reticulatus, subtus lævis.

Raii. Syn. Gen. I. FUNGI

PHALLUS *impudicus* volvatus stipitatus, pileo celluloso. *Lin. Syst. Vegetab. p. 822. Spec. Plant 1648. Fl. Suec. n. 1261.*

PHALLUS *impudicus. Scopoli Fl. Carn. n. 1605.*

FUNGUS foetidus, penis imaginem referens. *C. B. pin. 374.*

PHALLUS *Hollandicus Park. 1322. Raii. Syn. p. 12. Hudson. Fl. Angl. ed. 2. p. 629. Lightfoot. Fl. Scot. p. 1044. Fl. Dan. t. 175. Schæffer Icon. Fung. t. 196. 197. 198.*

RADIX fibrosa, fibris majusculis, teretibus, albis, paulo infra terram repentibus, quibus hic illic accrescunt globuli albi, qui justam magnitudinem acquisiti, supra terram eminent et Volvæ dicuntur. *fig. 1. 2.*

VOLVA subrotunda, basi paululum compressa, lævis, magnitudine pilæ palmariae, alba, ponderosa, tunica satis crassa exterius tecta, cui proxime subest gelatina quædam pellucida, flavo-fusca. *fig. 3. 5.*

STIPES: disrupta volva, exurgit stipes, crassitie pollicis, palmaris et ultra, paululum curvatus, teres, albus, levis, spongiosus, fistulosus, utrinque acuminatus. *fig. 6.*

PILEUS subconicus, stipiti laxè insidens, primo lævis, solidus, olivaceus, lubricus, mox foetidissimus, cellulis materie feminiferæ externe posita adhuc repletis, quâ diffuente aut muscis exfusa, superficies externa cellulosa apparet, interna parum rugosa, vertice truncato, albifimo, oblongo, pervio, *fig. 4. 7. 8.*

ROOTS fibrous, the fibres large, round, white, creeping a little under the surface of the earth, to which grow here and there white globules or tubercles, which when full grown project above the surface of the earth and are called Volvæ or Eggs. *fig. 1. 2.*

EGGS roundish, a little flattened at the base, smooth, the size of a tennis ball, white, heavy, covered with an outer coat of a moderate thickness, immediately under which lies a thick mass of transparent jelly of a yellowish brown colour. *fig. 3. 5.*

STALK: on the bursting of the egg the stalk rises up, and is about the thickness of the thumb, four inches and more in height, a little crooked, round, white, spongy, hollow, very light and pointed at both ends. *fig. 6.*

CAP somewhat conical, sitting loosely on the stalk, at first smooth, solid, of an olive colour, and slippery, soon becoming highly fetid, the cells being as yet filled with the matter containing the seed, which flowing out or being eaten by flies, the outer surface appears cellular, the inner a little wrinkled, the top as if cut off, very white oblong and open. *fig. 4. 7. 8.*

IN the months of August, September, and October this singular Phenomenon of the Fungus tribe makes its appearance in Woods, Hedgerows, and Hedges, in some places abundantly, in others rarely, near London it has been found in *Coombe Wood*, and *Norwood*, but more plentifully in a small fir wood near the *Spaniard Hamstead-beath*, before remarked for producing the *Hydnum auriscalpium*; in this wood on the 24th of September 1780 I discovered near a dozen growing within a small space of each other, some were full grown, others in their egg state, risen about half way out of the ground, and when taken up appearing like so many small tennis balls, *vid. fig. 2*; several of these I carefully carried home, one which was in its greatest perfection my draughtsman for the sake of more conveniently drawing took with him to the *Spaniard* (a place of entertainment on the spot,) but the fetor arising from it quickly pervading every part of the house and rendering it intolerable we were obliged to get rid of it.

On perpendicularly dividing with a sharp knife one of those I had taken home, I was not more struck with the beautiful appearance which the surface of each half exhibited, than the thick mass of pure, transparent jelly, of a brownish yellow colour, deposited betwixt two membranes, immediately under the outer surface, and which enveloped the fungus as yet in embryo. *vid. fig. 3.*

On examining my Fungi in their egg state the next morning, I had the satisfaction to observe that in one of them, the cap of the fungus had just broke through its integuments, and was pushing itself up through the jelly, I thought this a proper opportunity of observing how quick it was in its growth, and found that from the time of its breaking through the outer skin (half past eight o'clock) to the time that it acquired its full height a space intervened of about five hours, in which time it had grown three inches and three quarters; an instance of the quickness of vegetation scarce credible, and perhaps not to be equalled by any other plant.

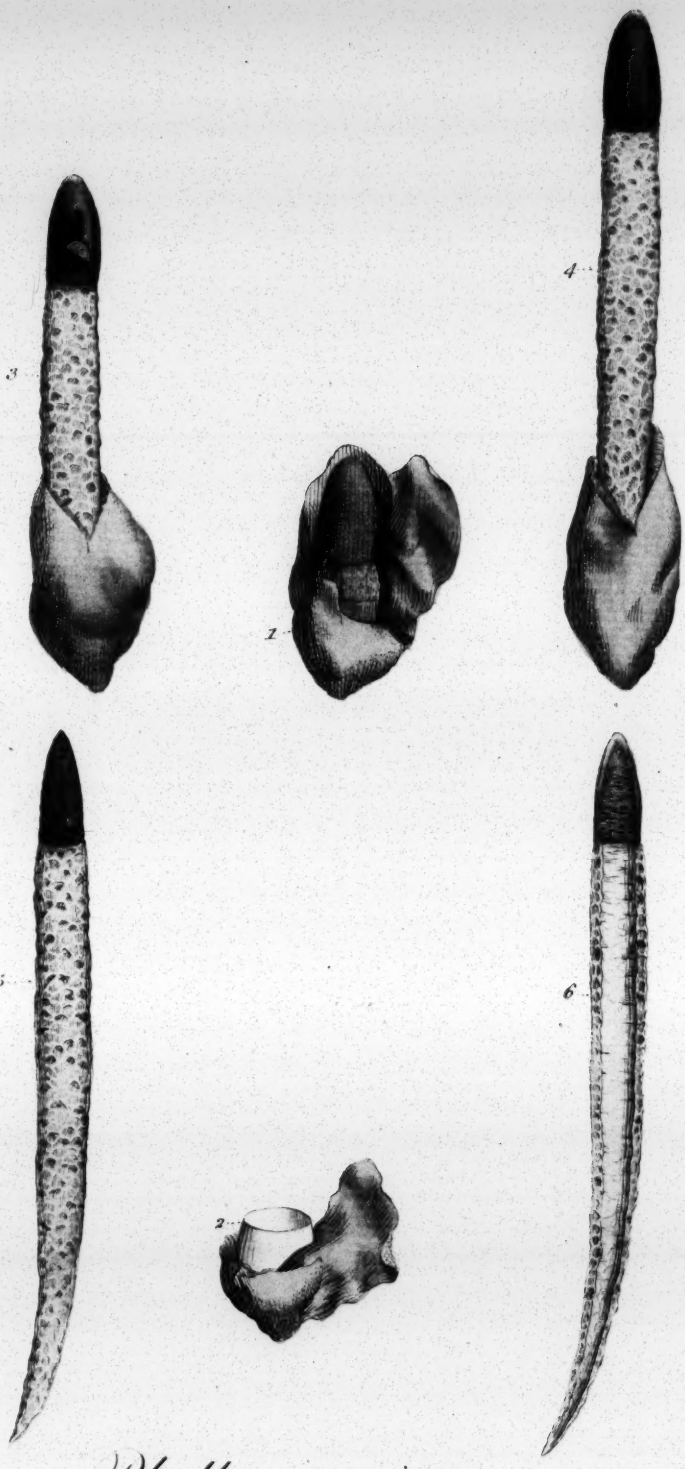
The Cap on its first coming forth, being covered with the jelly through which it had passed, and being also of a light olive colour but perfectly opaque not unaptly resembled a lump of bird-lime. *vid. fig. 4*; this appearance it retained 'till eleven o'clock, when in some parts it became of a darker colour, at half past twelve, the whole outer surface of the cap was changed to a very dark olive, it now began to smell very offensively, flies came into the room and settled on it, a little past one, it began to dissolve, and drop off, and the cells containing this substance about the top of it began to be visible. *fig. 7*; it was now placed out of doors when the Pileus was almost immediately covered with several species of Flies mostly of the larger sort, who instead of sticking to and perishing on it as related by *Gleditsch* in about two hours left the cells perfectly empty *vid. fig. 8.*

The disagreeable smell arising from the *Phallus impudicus* which alone is often sufficient to detect it, and from which it has acquired in some parts of the kingdom the name of *Stink-horns* has usually been compared to Carion, and generally considered as the effects of its putrefaction—to me the smell appears to be altogether *sui generis*, and not to arise from putrefaction, at least a general putrefaction of the plant—it first arises from the substance lodged in the cells on the out-side of the pileus, which constitute the generic character of the *Phallus*, and with which the seeds of this plant are doubtless incorporated, as soon as this substance begins to liquefy, the effluvia is perceptible, at this time every other part of the plant is perfectly sweet, not excepting the jelly which it must be allowed afterwards acquires a disagreeable odour, apparently from its putrefaction—the Flies allured by the effluvia from the pileus, do not settle on it, to deposit their eggs as on the *Stapelia fetida* or putrid meat, but merely to feed on it, and which they appear to do most deliciously; scarcely ever suffering a drop of the liquid to fall on the ground, whence this species would soon become extinct, had not provident nature supplied it with a root which like the Potatoe throws out numerous offsets.

This plant affords nourishment not only to various species of flies, but also to Snails and Slugs who are extremely fond of its stem.

We may remark that the top of the cap has sometimes two perforations, instead of one its usual number.





Phallus caninus.

PHALLUS CANINUS. RED-HEADED MORELL.

PHALLUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus supra reticulatus, subtus lævis.

Raii Syn. Gen. FUNGI.

PHALLUS *caninus* volvatus, stipitatus, stipite celluloso, capitulo impervio, rubro, rugoso.

PHALLUS *exilis* Marattæ. *Batarr. Fung. p. 7. t. 40. F. ?*

PHALLUS *caninus* volvatus stipitatus, pileo rubro celluloso acuto, apice clauso. *Hudson. Fl. Angl. ed. 2. p. 630.*

VOLVA magnitudine nucis moschatæ, oblongo-ovata, alba, lævis, intus gelatinosa, tunica interiore superne truncatâ, *fig. 1, 2.*

STIPES extra volvam, sesquiuncialis, seu biuncialis, magnitudine calami anserini majoris, teres, filiformis, inferne acuminatus, cellulosus, subpellucidus, pallide aurantiacus, intus cavus, cito flaccescens. *fig. 3, 4, 5, 6.*

CAPITULUM, nam pileus vix dici potest, stipiti insidet, estque sessile, semunciale, diametro stipitis, oblongum, subacuminatum, apice impervio albescente, primo lividum, membranâ nitidâ, tenuissimâ tectum, infra quam exigua quantitas humoris virecentis, seu materies feminalis fere inodori cernitur, quâ remotâ superficies capituli rubra et transversim rugosa apparet, nequaquam vero cellulosa, sicut in impudico.

VOLVA, or egg, the size of a nutmeg, of an oblong, ovate shape, white, smooth, gelatinous within, the inner coat cut off at top. *fig. 1, 2.*

STALK, beyond the volva, an inch and a half or two inches in length, the size of a large goose-quill, round, filiform, terminating in a point at bottom, cellular, somewhat transparent, of a pale orange colour, hollow within, soon becoming flaccid. *fig. 3, 4, 5, 6.*

HEAD, for it cannot properly be called a cap, fits on the stem, is sessile, about half an inch in length, and of the diameter of the stem, oblong, a little pointed, impervious and whitish at top, at first of a livid colour, and covered with a very thin, shining membrane, underneath which is a small quantity of a greenish liquid, or feminal matter, almost scentless, which being removed, the surface of the head appears of a red colour, and transversely wrinkled, but by no means cellular, as in the stinking Morell.

Mr. EHRET, the celebrated botanic painter, appears to have been the first who discovered this rare Fungus in this country; he found it in a wood near *Salop**, and made drawings of it for one of his principal patrons. Mr. HUNTER, gardener to the Earl of MANSFIELD, lately found it, though very sparingly, in *Caen Wood*, and communicated several specimens of it to Mr. DICKSON of Covent Garden. This autumn 1781, on the 25th of September, I was fortunate enough to be present at the discovering of one of them in Lord MANSFIELD's small Pine wood, famous for producing the *Phallus impudicus*, *Hydnum auriscalpium*, and other Fungi; I was in search of these, when my draughtsman Mr. SOWERBY pointed out to me a white substance, risen a little above the surface of the ground, and which at a distance resembled the cap of a small white mushroom; not suspecting it to be any thing extraordinary, I took it up with less caution than I should otherwise have done, and on opening it found it to be the *Phallus caninus*, in the state represented at *fig. 1*. From the hasty manner in which it was gathered, I had no opportunity of observing whether its roots were similar to those of the *Phallus impudicus*, but suspect they were; on examining it the next morning I was pleased to find that the stalk had shot out from its inclosing volva more than an inch; the volva contained a jelly in the manner of the *impudicus*, in passing through which, the stalk became covered with it, (this is prevented from taking place in the *impudicus*, because the pileus is much wider than the stalk) the stalk was cellular and hollow, equally rapid in its growth as the *impudicus*, but as its base contained within the volva ran out to a finer point, so the body of it was more uniformly of a size throughout, and of a faint orange colour; not having that firm waxy texture which enables the *impudicus* to support itself for many days, it quickly became flaccid after attaining its full growth.

Thus far we may observe a great similarity in the structure and economy of the two plants we have been comparing; in the remaining part, containing the fructification, we find an amazing difference. The *Phallus impudicus* carries on the top of the stalk a very distinct and perfect Pileus, or Cap, on the outside of which the feminal matter is deposited in cells, without the least covering; in the *caninus* there is properly speaking no Pileus, the part on the outside of which the feminal matter is lodged, forms a capitulum, or head, which is only a continuation of the stalk, as appears on dissection, differing in its structure and colour, this head has a wrinkled, not a reticulated surface, within these wrinkles, which are not very deep, the feminal matter is contained, and (contrary to what we find in the *impudicus*) covered by a very thin membrane; we may observe that this matter has very little smell in it, nor do flies appear particularly fond of it.

This unusual structure of the capitulum by no means agrees with LINNÆUS's generic character of a *Phallus*, as that implies a *Pileus smooth on the under, and reticulated on the outer side*, with which the *impudicus* perfectly corresponds, and yet every botanist would call this a *Phallus*; hence there appears a necessity for altering its generic character, the essence of which seems to consist in the *Seeds being contained in a jelly-like liquifying substance, on the outside of a Capitulum or Pileus*.

BATARRA's figure and description may possibly be intended for this Fungus, there is no knowing with certainty, so great is their obscurity.

* In the margin of a Ray's Synopsis which had been Mr. Ehret's, belonging to Mr. Richard Haworth, Apothecary of Chancery-lane, who kindly lent it me, there is the following remark at the *Phallus impudicus*, in Mr. Ehret's own hand writing: "a smaller sort found in a wood near Salop, with Mr. Moore 1741, but it did not stink."



